10TH ANNUAL COAL STRIPPING NUMBER

COAL MINING

APRIL, 1953 | published by Modern Mining Publishing Co. 4575 COUNTRY CLUB DRIVE • PITTSBURGH 27, PA | VOLUME 30, No. 4

take a look at your stripping costs!

TOO MUCH? BIG? EXCESSIVE? HIGH? wasteful?

Call on Highway! Take advantage of up-to-date information on the latest, most efficient mining equipment. Let one of Highway's mining specialists survey your needs, and make common sense, economical recommendations which will solve your equipment problems—quickly!

PHONE US TODAY.
You'll get action...and satisfaction.

Almost out of sight, but doing a typical Lima big job. This Lima Model 802 is operated by ED TOTH, McKEES ROCKS.

NATALIE COAL CO., ELIZABETH, speeds up stripping every day with this Allis-Chalmers HD-20, world's most rugged, dependable tractor.

Highway EQUIPMENT COMPANY
6465 Hamilton Ave. • Pittsburgh, Pa.

ALLIS-CHALMERS • JAEGER • BAKER • GAR WOOD • HOUGH • MASTER • THOR • WAYNE CRANE • GENERAL MOTORS DIESEL ENGINES • LIMA SHOVELS, CRANES, DRAGLINES • ERIE BINS

JOY PLUGS

NO. D3A375RM Male

MINING'S CHOICE *for* PORTABLE POWER TRANSMISSION

Modern mining technique permits no pampering of men or equipment. From power source to working face, everything must keep pace with production schedules. That's why it's important to *you* that more JOY connectors are used in mining operations than all other brands combined.

This proves that JOY plugs, receptacles and distribution boxes "measure up" to the industry's high standards for performance, safety and durability.

JOY plugs are molded to cable as one-piece Neoprene units—shatter-proof, wear-resistant, and impervious to the deteriorating effects of moisture, grime or oil. Through them, power cable can be sectionalized into easily handled lengths for rapid replacement of damaged sections.

JOY plugs are supplied for A.C. or D.C. operation in current capacities as required. They are available in three or four-contact models, described below, and also with one or two conductors. ● Write for complete details and bulletin today!

3-CONDUCTOR DESIGNS (*for D. C. Application*)

REVERSED PIN PLACEMENT: Male plug has one socket that engages contact pin in female plug for grounding and polarization. Supplied for #10 through 750 MCM wire sizes.

PILOT PIN DESIGN: As above except for two additional "pilot control" contacts that may be shunted or carried through cable on #10 wire. Supplied for #8 thru 500 MCM wire sizes.

4-CONDUCTOR DESIGNS (*for A. C. Application*)

REVERSED PIN PLACEMENT: Male plug has one socket that engages contact pin in female plug for grounding and polarization. Supplied for #10 through 500 MCM wire sizes.

PILOT PIN DESIGN: As above except for two additional "pilot control" contacts that may be shunted or carried through cable on #10 wire. Supplied for #10 through 400 MCM wire sizes.

IMPORTANT: Pilot pin designs are *permissible* when used with JOY Safety Circuit Center power distribution boxes. *Write for complete details.*

NO. D3A375RF Female

Straight Pin Bigun (SPB) plugs illustrated at top and left are JOY's three-conductor style with pilot contact. Note reversed contact for polarization and grounding.

Consult a Joy Engineer

W&D ME 4131

JOY MANUFACTURING COMPANY

GENERAL OFFICES: HENRY W. OLIVER BUILDING · PITTSBURGH 22, PA.

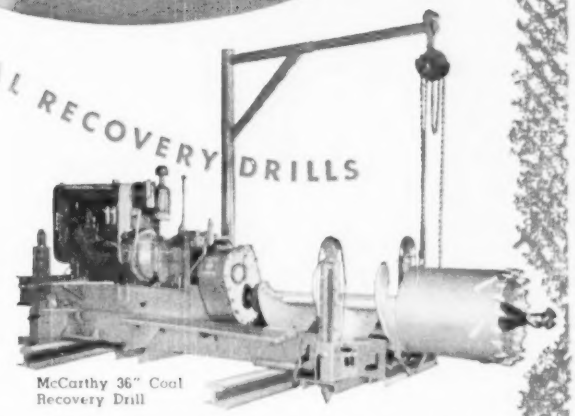
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LIMITED, GALT, ONTARIO

McCarthy drills CUT DRILLING COSTS

BLAST HOLE DRILLS

At Bessemer Limestone and Cement Co., Bessemer, Pa., one McCarthy Blast Hole Drill, like the one pictured below, averaged 90 ft. an hour, working through a hard blue shale facing 34 ft. deep. Holes were drilled on 18 ft. centers. Two men handled the whole job, including set-up and moving. Bessemer officials were so pleased with the performance of the McCarthy Drill that a second one was ordered and put to work in another section of their quarry. It, too, is breaking all previous records for fast, low-cost shot hole drilling.

COAL RECOVERY DRILLS



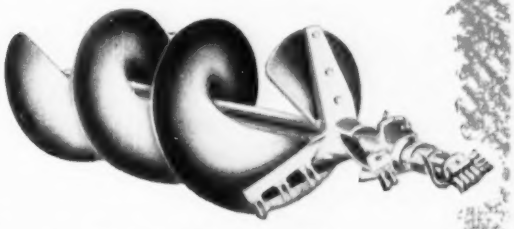
McCarthy 36" Coal Recovery Drill

Near Salineville, Ohio, a three-man crew, operating a McCarthy Coal Recovery Drill, similar to the one shown above, produced 90 tons of clean, high-grade and profitable coal in one eight-hour day. At Germano, Ohio, a three-man crew, using a 36" diameter auger section, produced 167 tons of coal in one eight-hour day!

Hydraulically controlled and operating on gasoline, diesel or electric power, rugged McCarthy Coal Recovery Drills produce coal at $1.50 to $2.00 a ton, including amortization of investment cost. You can select from four models . . . 20" to 24", 30" to 36", 42" and 48" diameters with 4-ft. to 24-ft. auger sections. Write Salem Tool direct and a distributor will call on you.

Heavy Rugged Powerful

McCarthy Model 106 Vertical Drill



THE SALEM TOOL COMPANY

763 S. ELLSWORTH AVE. SALEM, OHIO, U. S. A.

Self-propelled high-wall Blast Hole Drill

SALEM

24" Coal Recovery Drill

Published monthly by Modern Mining Publishing Company. Publication Office—Advance Printing & Litho Co., Erie, Pa. Editorial and Executive Offices—4575 Country Club Drive, Pittsburgh, Pa., P. F. JASIK, Publisher & Editor. Price: In the United States, $2.00 per year; all other countries, $5.00. Single Copy, 50 cents. Entered as second-class matter at the Post Office at Pittsburgh, Pennsylvania, under the act of March 3, 1879. Application for reentry applied for at the Post Office at Erie, Pennsylvania.

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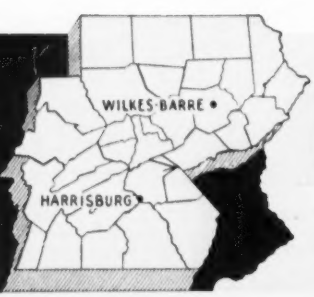
The Best in Equipment and Service in 32 Counties in Pennsylvania



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"Caterpillar" Distributors

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Replaces 7 trucks with 2 Tournarockers on tough coal stripping job

Operator Dayley Collett flips "dump" button, drops Tournarocker load clean over bank. Reports Collett, "What I like most is the easy way Tournarockers handle. They turn around with plenty of room to spare."

With heaped load, Tournarocker starts 300' haul to fill. Rig's ability to turn 90° in 13'9" radius speeds cycle. Says Owner Chapman: "One feature we particularly like about these machines is the way we can turn them around without stopping in our narrow cuts."

H. T. Chapman **of Elkins, West Virginia — stripping 1,500,000 yds. of shale for the Phil Williams Coal Co. near Elkins — has a serious haul problem on his hands. During much of the year working conditions are very bad. Steady rains, combined with poor drainage, continually saturate haul roads and material. At times, parts of the haul must be made through 30" of water. Access roads are wet, spongy, and practically bottomless in places.**

"Only equipment that can do job"

When it became apparent that dump trucks couldn't work efficiently under these conditions, Chapman tried 2 rear-dump C Tournarockers. With their traction advantages—front-wheel drive, big high-flotation tires and power-proportioning differential (which automatically applies up to 4 times the power of slipping drive-wheel to wheel on firmer ground) — these rigs really did the trick! After several months' use Chapman observed, "Tournarockers are the only pieces of equipment that could do the job. My 2 'C's' have replaced 7 trucks!"

Move 220 yds. of overburden hourly

Company records covering several typical months of stripping show the 2 Tournarockers average 11 cu. yds. (almost 15 tons) of hard blue shale per load. On a soupy 600' cycle, each rig makes 10 trips per hour . . . hauls 1100 yds. (1500 tons) per 10-hour day.

Also haul coal, 22 yds. per load

The 2 "C's" have also been used to haul coal. On this work, they move about 22 cu. yds. per load. Average 12,000' cycles are completed every 15 to 20 minutes — in spite of travel through 800' of belly-deep mud, up 700' of 16% unfavorable grade and down 200' of 30% favorable grade. That's 3 to 4 trips (66 to 88 cu. yds.) per hour for each rig.

Whenever *you* have coal, rock, ore, or other shovel material to haul, it will pay you to check the output of fast rear-dump Tournarockers. Write for complete facts and figures on work like yours. We'll be glad to arrange a demonstration for you at your convenience.

Tournarocker—Trademark Reg. U. S. Pat. Off. R-221-CM-b

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That Really Count!

Get them in the

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1. Four cubic yard dipper capacity.
2. Electric swing on a diesel machine.
3. All-electric if desired.
4. Ships on two rail cars.
5. Ideal companion equipment of big haulage units.
6. Proven by 6 years in the field.
7. Smooth, fast Marion Air Control.
8. Dragline booms to 120 feet.
9. Dragline buckets to 5 cubic yards.
10. A Rated 161-Ton crane for the really big jobs.

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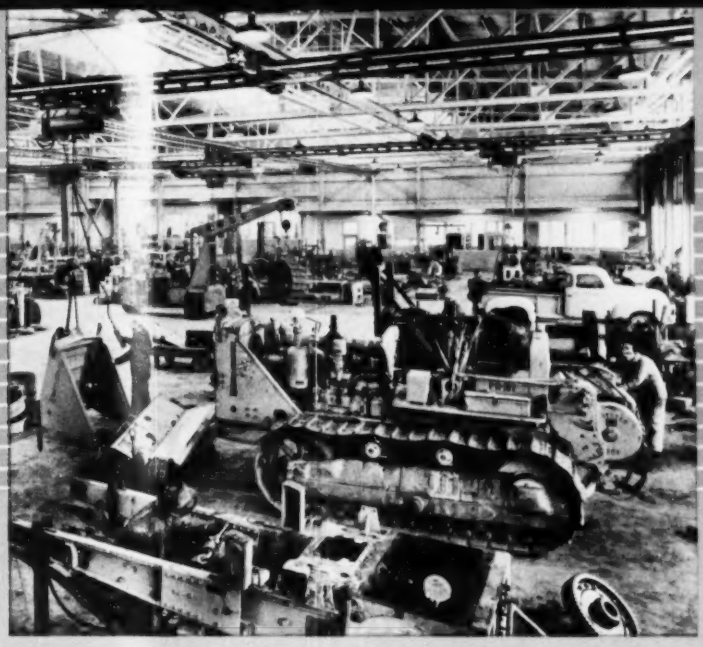
from 1/4 cu. yd. to 45 cu. yds.

shop for service



Our service shop is well-equipped to quickly handle complete service of your largest and smallest machines. Modern, specialized tools and equipment are arranged in ample space to make efficient use of skilled mechanic's time. Exacting testing machines insure accurate repair by these factory-trained men.

These complete service shops — conveniently located at more than 600 places throughout the world — keep your downtime and repair costs at a minimum!

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CATERPILLAR — LOOK TO THE DEALER BEHIND THE PRODUCT — BE 100% SURE . . . WITH 100% CAT PARTS

You can move *more* material with a Caterpillar DW21 — No. 21 Scraper team . . . and you can move *each* yard at less cost! First, every yard is loaded in less time, with less tractor power — proper bowl and cutting edge design sees to that. Then, every yard is hauled faster, with steady speed on hills and level haul, because the DW21's deep-lugging power is matched to capacity. Spreads are made in fewer seconds, for big tires and ample power carry the loaded rig over soft fills.

CATERPILLAR DW21s MAKE EACH YARD *Earn More!*

This work will be done on fewer gallons of fuel as the DW21's Cat Diesel Engine squeezes every bit of power from every drop of fuel. Maintenance and repair bills will be at a new minimum.

If you want proof of the greater profit-production of Cat DW21s, let us put one on your job and compare costs with your present rigs. There's no obligation!

Cost-Per-Yard Records Prove CAT DW21 Performance

These figures are from actual jobs of contractors across the nation. Names will be furnished on request.

Job	COST-PER-YARD	
	Other Makes	Cat DW21s
A	14.1c	11.8c
B	9.3c	7.8c
C	10.6c	9.7c
D	24.8c	17.3c

ON THE PRECEDING AND FOLLOWING PAGES . . . THERE ARE OTHER

NEW!

The CATERPILLAR No. 6 SHOVEL

Designed to contractor specifications—built to Cat-quality!

Here's the only tractor-shovel in the field that's unit engineered — prime mover and working tool are designed, from the ground-gripping tracks up, as one machine and by one manufacturer!

The new Caterpillar Shovel has all the features that contractors asked for — plus several completely new ones — making the No. 6 more versatile, stronger, capable of turning out more production *and profit!*

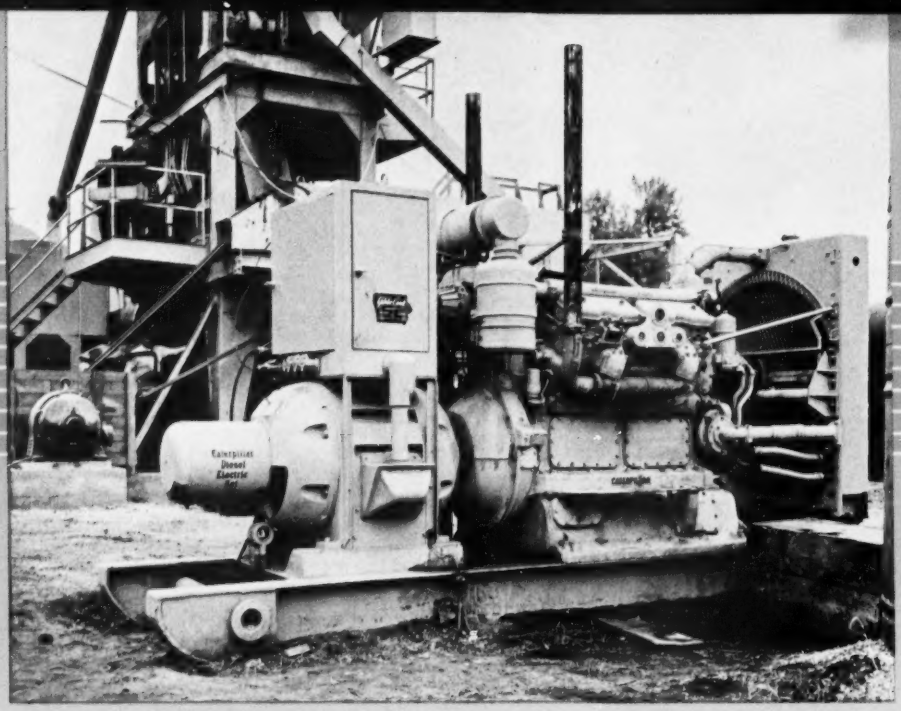
We'll soon be able to show you a contractor-proved Cat No. 6 Shovel at work near you.

- Big capacity — 2 CU. YDS. — and a full load each pass!
- Lifts to 10-FT. 9-IN. to load the largest haulers!
- Dumps at 50-degree angle for fast, clean ejection!
- Cat hydraulic system for fast, accurate control — tremendous down-pressure and lifting strength!
- Heavy, structural steel, reinforced mainframe!
- Unlimited visibility of all working parts!
- Big prime power — 66 DRAWBAR HP — 18,700 lbs. of push!

CATERPILLAR

LOOK TO THE DEALER BEHIND THE PRODUCT

MONEY-MAKING FACTS...



Ronald Kenyon Construction Co. picked a D375 Electric Set to power their asphalt plant. Production: 130 tons per hr.

CAT* DIESELS OFFER USABLE HORSEPOWER

When you *buy* a Cat D375 Engine, rated at 302 HP on 12-hour duty, you *get* an engine capable of supplying 302 usable horsepower. For the D375, like all Caterpillar Diesels, is rated with all *basic* equipment in place. There's no loss of power to water pumps, fuel pumps, oil pumps or essential parts that the engine must have to operate.

That means you can furnish your equipment requirements with *exact* horsepower —there's no waste, no underpowering. You get maximum performance, economy and long life because Cat Diesels don't have to strain to turn out the power you need.

Cat Diesels are offered in 12 sizes to meet power needs exactly. Compact, the engines offer high horsepower at low weight. A choice of mountings, clutches, cooling systems, starting systems and controls enable you to tailor an engine to your preferences.

Bring your power problems to us. Let us match horsepower to duty, capacity and performance . . . and show you how you can save money in doing it. Estimates are free and gladly given. Call on us!

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CM-1

CATERPILLAR*

LOOK TO THE DEALER BEHIND THE PRODUCT

*Both Cat and Caterpillar are registered trademarks

COAL MINING

Vol. XXX April, 1953 No. 4

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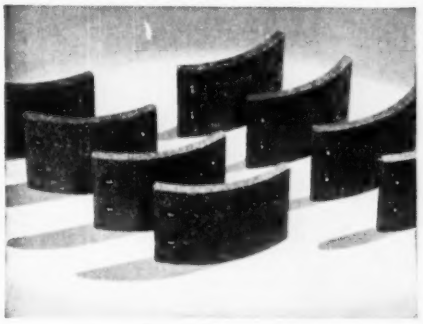

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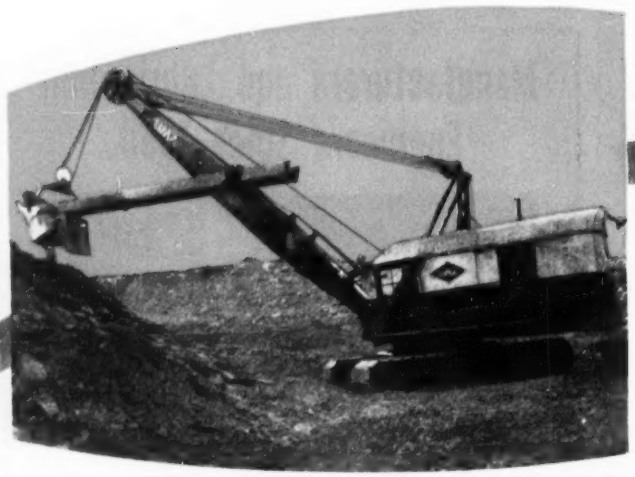
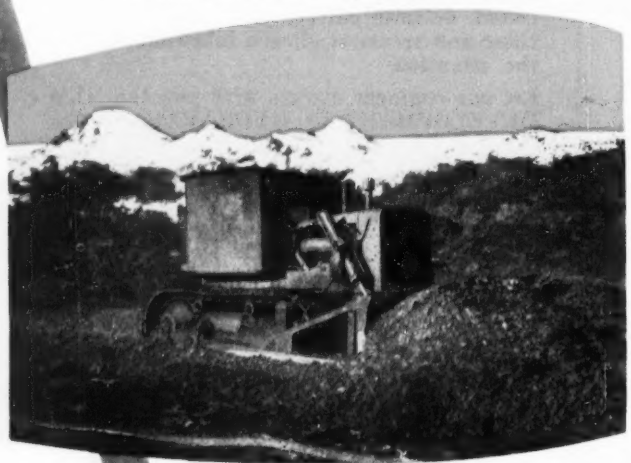


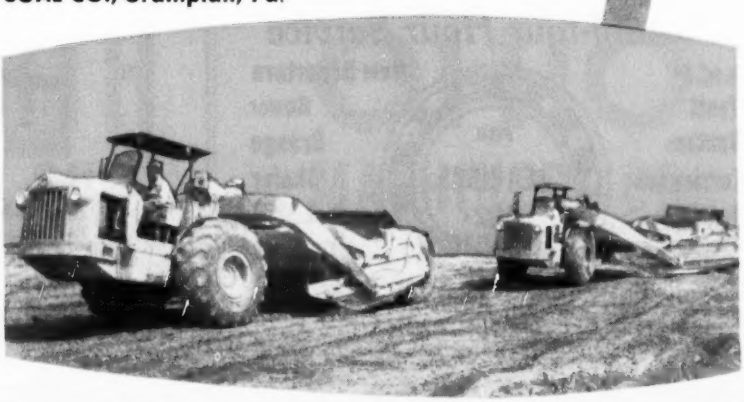
LIMA 1201 Shovel offers the utmost in dependability and economical operation at HOFFMAN BROS. strip job, near Karthaus.

Let your Highway representative show you how to cut stripping costs . . .

Your Highway equipment engineer will be happy to help you speed up production while reducing equipment investments and operating expense.



ALLIS-CHALMERS HD-20 is the toughest, strongest tractor ever built. It will take the loads of rush production jobs . . . stand up under the most grueling operating conditions. Photo shows HD-20, operated by MATHEWS COAL CO., Grampian, Pa.



ALLIS-CHALMERS motor scraper at R. C. CARLIN MINE near Snow Shoe.

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WRITE FOR BULLETINS: Separate bulletins are available on all the crushers shown, and on a wide variety of other equipment.

Single Roll Rockmaster Crusher for b... primary and secondary crushing. Used ... crushing mine refuse, sulphur balls, ... rock, slate, etc. *Bulletin RM-505.*

Single Roll Black Diamond Crusher w... exclusive automatic steelstrut toggle ... quick adjustment. *Bulletin BD-457.*

McLanahan Double Roll Crusher fo... various reductions of medium-sl... ...ds. *Bulletin DR-447.*

The low cost McLanahan... Bantam Buster Single R... Crusher. *Bulletin BB-...*

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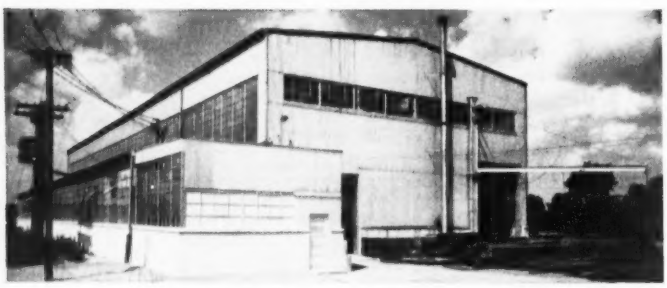
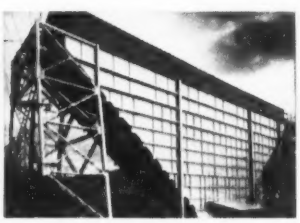
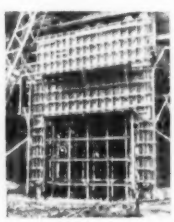


Fabricating

This modern, well-equipped, well-staffed plant has facilities for fabricating a wide variety of steel and machinery products—R & S preparation and handling equipment and scores of other critical items for your project. It helps us avoid delays which result from depending upon outside manufacturers.





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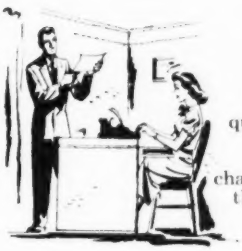
—and Coal Show Service Too!

HELP ON PREPARATION PROBLEMS . . . *PLUS!*

Be sure to include R & S in your plans for the May 11-14 Cleveland Coal Show. In keeping with the R & S tradition of service and hospitality, we have designed our Coal Show booth for your profit *and pleasure*.

As always, the R & S booth will have a full time staff of R & S engineers to help you with your coal preparation and handling problems . . . to make your visit to the Coal Show as profitable as possible.

For your added profit, pleasure and convenience, R & S also invites you to take advantage of the other R & S booth services and facilities described here.



SECRETARIAL SERVICE

If you have to dash off a quick letter to your office, or any place else during the course of the Coal Show, chances are you can get exactly the kind of help you need at the R & S booth.

PLAN TO "HANG YOUR HAT" (literally) AT R & S SERVICE HEADQUARTERS

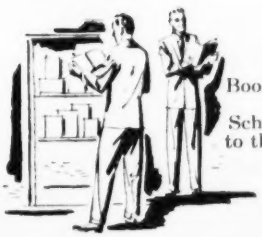
While space, hangers and racks last, we shall be happy to have you use the cloakroom facilities of the R & S service booth.

WHERE'S THE PHONE? AT BOOTH 2000, OF COURSE!

"Where's the telephone?" is usually a problem at trade shows and conventions. However, the 1953 Coal Show will be an exception. Feel free to use the telephone facilities provided at R & S booth 2000, "at the top of the stairs."

REST AND READ . . . OR VISIT

The central location of R & S booth 2000, "at the top of the stairs," makes it a good central point for starting out or ending up, for meeting friends, or for just plain relaxing in a soft, comfortable easy chair.



UP-TO-DATE DATA ON R & S EQUIPMENT AND SERVICES

Booth 2000 will have ample stocks of all up-to-date Roberts and Schaefer Co. literature. Your visit to the booth will be a good chance to bring your R & S literature file up to date.

AND "COFFEE-AND"

It's always "coffee-and" time at R & S Coal Show Service Headquarters "at the top of the stairs." We hope you will plan to stop and have a cup of coffee with us while you are at the Show. We will enjoy seeing you and we believe you will enjoy the "coffee-and."

We look forward to seeing you at the Cleveland Coal Show May 11-14, 1953

"AT THE TOP OF THE STAIRS"

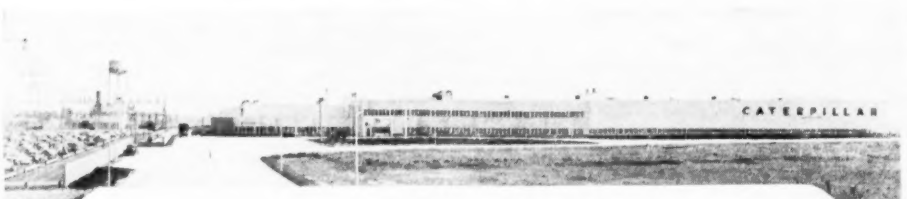
ROBERTS and SCHAEFER CO.

BOOTH 2000

TO HELP SELL COAL...

BCI Advertises to the Industrial, Commercial and Institutional Markets.

Each month, full-page messages like the one shown below—featuring either "off-track" or "on-track" installations—appear in the pages of *Business Week*, *Nation's Business* and a carefully selected group of power journals and trade magazines.



NEW PLANTS LIKE CATERPILLAR'S BURN COAL THE MODERN WAY!

Mr. R. H. Bachman, Plant Maintenance Engineer, Caterpillar Tractor Co., says:

"Our new plant pictured above was recently completed at Joliet, Illinois. A completely up-to-date coal installation was chosen to handle the heat and process steam requirements. To the right is a picture of the firing aisle showing how the boilers are fed by dust-tight chutes from overhead bunkers. This modern equipment makes coal as clean, convenient, and efficient as a fuel can be! The boilers are rated at 80,000 lbs. of steam per hour, but have handled loads as low as 3,000 lbs. per hour without difficulty."

For big savings, build for COAL! That's a good rule to follow whether you've got a new plant under construction or an older plant being modernized.

Up-to-date coal-burning equipment can give you more steam per dollar . . . modern coal- and ash-handling systems can cut labor costs to a minimum. In addition, coal is the only fuel with virtually inexhaustible reserves. And to mine this coal, to better prepare it for customers' special needs, America has the world's most productive coal industry. Thus, coal users get a double advantage—*dependable supply of an ever better product, at relatively more stable prices.*

For heat, power, process steam—coal is your best bet! Ask a consulting engineer. He'll show you how to cut both fuel and operating costs by burning coal in a modern plant designed to meet your specific needs.

If you operate a steam plant, you can't afford to ignore these facts!

COAL in most places is today's lowest-cost fuel.

COAL resources in America are adequate for all needs—*for hundreds of years to come.*

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association,
Washington, D. C.

FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!

Put This Cost Cutting Specialist on Your Haul Roads

Allis-Chalmers Model D

WEIGHT — 8,800 lb.
BRAKE Horsepower 40
SPEEDS — Four forward, to 25.6 mph.; reverse to 3.3

THE Allis-Chalmers Model D Motor Grader offers big-grader design and performance advantages. Like big graders, it has tandem drive wheels to provide real earth-moving traction. It also has a shock resistant tubular frame, high throat and axle clearance, ROLL-AWAY moldboard and power hydraulic controls.

And the Model D has many additional advantages for haul road maintenance. Its low original cost — only a third as much as large graders — its operating economy, size and dependability, make it ideal for this type of work. With the famous Allis-Chalmers 40 hp. gasoline engine, it easily handles all maintenance and light construction jobs. Compactness and short turning radius enable it to work easily in close quarters.

Special attachments — such as the rear-end loader — make it an all-round performer.

See your Allis-Chalmers dealer for all the facts on the low-cost Model D. Start cutting haul road maintenance costs now.

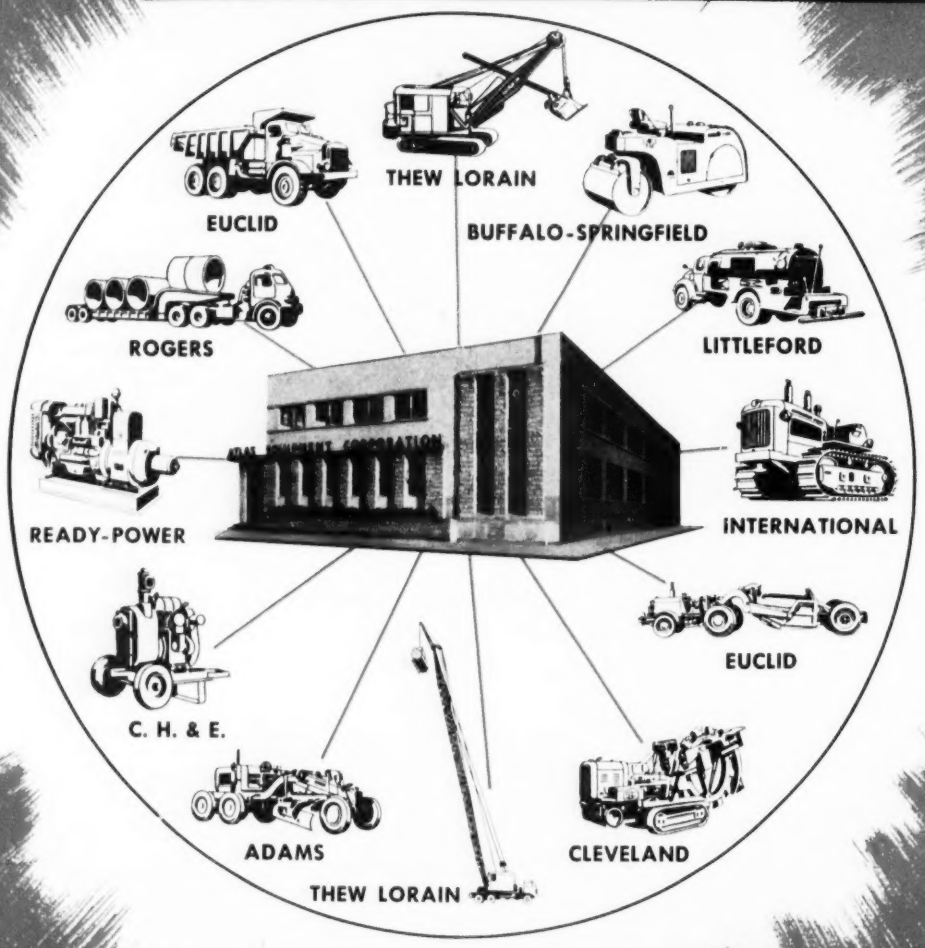
You can count on the Model D to do *more* than maintenance work, for this busy machine has power and traction to handle a good deal of the construction work, too. In addition, its $\frac{5}{8}$ cu. yd. bucket loads excess dirt, fills small gullies and ditches . . . handles many other jobs which would ordinarily call for a specialized machine.

ROLL AWAY is an Allis-Chalmers trademark.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

AROUND THE CLOCK — ANY SEASON...

it's Atlas for Action!



INDUSTRIAL, CONSTRUCTION, MATERIALS HANDLING EQUIPMENT

ATLAS EQUIPMENT CORPORATION

• SALES • SERVICE
• RENTALS

ATLAS EQUIPMENT CORPORATION

635 RIDGE AVE., PITTSBURGH 12, PA.
ALlegheny 1-6000

Here and There in the Coal Industry

● Indicative of the very complete preparations that will be made to assure the success of the 1953 NCA Convention is the announcement by L. C. Campbell, NCA President, that Edwin H. Davis, Chairman of the Board, New York Coal Co., Columbus, Ohio, has been named as General Chairman of the Committee for the 1953 Covention and Business Meeting.

The 1953 Convention, as has been previously announced, will be held in Washington, D. C. on October 19, 20 and 21, 1953. The Shoreham Hotel will be convention headquarters.

It is not too early now to be making your plans to attend this outstanding 1953 coal industry event. National's Washington office will, as usual, take care of reservations for the convention.

● "Atomic power plants will not be competing on an economically sound basis with coal, oil or gas-fired plants for at least 15 years" is the message of a prominent atomic power expert. This prediction was contained in a newspaper dispatch reporting a talk by Harry A. Winne, Vice president of Engineering for General Electric Co., made April 10 in Cleveland, Ohio at Case Institute of Technology. Mr. Winne continued, however, "that it might take as long as 30 years for atomic power to make significant contributions to America's power generative capacity." Mr. Winne also stated that he did not look for the displacement of coal, oil or gas by atomic fuel, but that instead "nuclear fuel will supplement and not supplant, combustible fuels."

● The Illinois Coal Operators Association held its 23rd annual meeting in Chicago on March 11 with election of officers and executive board members. The Executive Board named included Stuart Colnon, George B. Harrington, F. F. Kolbe, George C. McFadden, T. C. Mullins, Stuyvesant Peabody, Jr., A. H. Truax and William P. Young. Officers elected by the Executive Board consist of H. A. Treadwell, president; C. W. Peterson, treasurer; Fred S. Wilkey, secretary; and Thurlow G. Essington, general counsel.

● Mr. J. L. Hamilton, Vice President in Charge of Operations of Island Creek Coal Company and Pond Creek Pocahontas Company, has announced the appointment effective March 1, 1953, of Mr.

N. T. CAMICIA

N. T. Camicia as General Manager of Pond Creek Pocahontas Company, including its West Virginia Division with mines in McDowell and Wyoming Counties, W. Va., and its Kentucky Division with mines in Breathitt County, Ky. At the same time he announced that

JOSEPH SKIBA

effective March 1 Mr. Joseph Skiba will succeed Mr. Camicia as Manager of the West Virginia Division of Pond Creek. In addition, he announced that effective

L. G. BARBER

March 1 Mr. L. G. Barber has been appointed Division Superintendent of the Rockhouse Division of Island Creek Coal Co., succeeding Mr. Skiba.

Do You Know?

● The process by which heat and pressure, deep within the earth's crust, deform rocks and cause them to "flow" has been duplicated for the first time at the University of California.

Long a puzzle to geologists, the mechanism of deformation has been found by a research team consisting of David Griggs, Hugh Heard and Norman Coles of the Institute of Geophysics on the Los Angeles campus of the University of California.

These experiments were performed at temperatures up to 750 degrees Fahrenheit and at pressures of 75,000 pounds per square inch—conditions approximating those at a depth of 10 miles in the earth's crust.

The research indicates that the mechanism of deformation in marble involves two processes: 1. shearing within the individual crystals without loss of cohesion, and 2. displacement at the boundaries of crystal grains by recrystallization — a molecular action similar to melting and refreezing.

Previous laboratory deformations of marble have been accomplished, Prof. Griggs points out. But this is the first time crystalline structure has indicated laboratory processes have approximately duplicated natural ones.

This is borne out in microscopic studies of thin sections of the marble by Dr. Frank Turner and Iris Borg of the Berkeley campus. These reveal a crystalline structure very similar to that of rocks deformed in nature.

● With a football-sized core, the National Reactor Testing Station in Idaho, using fast neutrons, was started on a program to demonstrate the possibility of breeding, or producing more nuclear fuel than is consumed.

● At the last Board meeting of the Red Jacket Coal Corporation, Wm. M. Ritter was elected President. For a number of years he has served as Vice President and General Manager. He succeeds Paul D. Ritter who resigned his position as President.

● Harry S. Gay, Jr., Vice President-General Manager of the Gay Coal and Coke Co. and the Gay Mining Co., Mount Gay, W. Va., died at Logan, W. Va. Mr. Gay, who was in his 64th year, was a native of Pennsylvania and was widely known as an inventor and developer of coal mining machinery. He was one of the real pioneers, having been associated with producing companies in the Logan and Williamson fields since his arrival here in 1912. Mr. Gay's father opened the Gay Coal and Coke Co., which was the first mine to ship coal out of Logan. In his lifetime Mr. Gay made a distinct contribution to the coal industry.

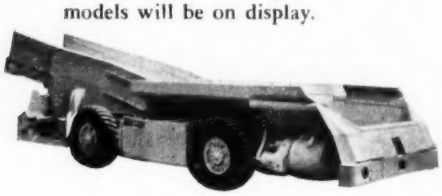
See

JEFFREY AT THE COAL SHOW

Usual area on the lower Lakeside level

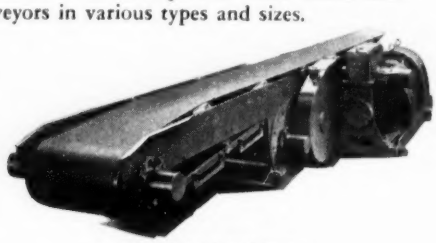
SHUTTLE CARS

Cable reel types in various heights and with elevating discharge. Operator's deck either left or right side. Three models will be on display.



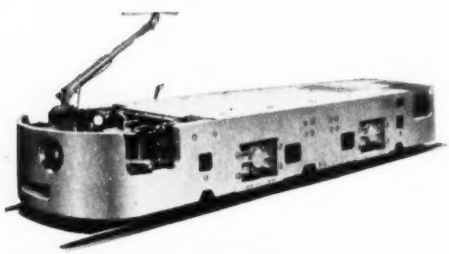
BELT CONVEYORS

For intermediate or main line haulage. Extensions easily and quickly made to keep up with room development. Also chain conveyors in various types and sizes.



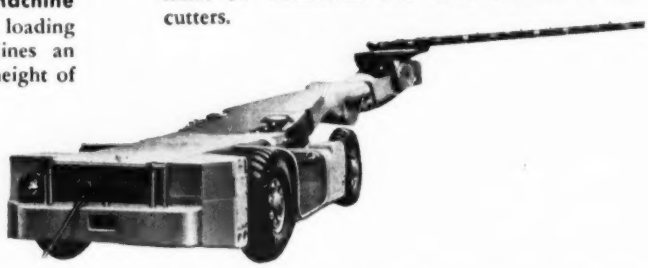
LOCOMOTIVES

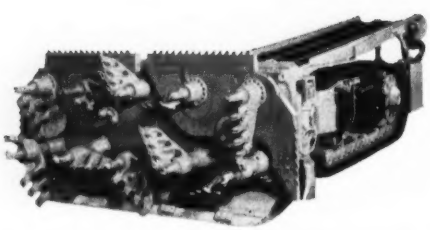
On display will be this 13-ton Main Line Locomotive with semi-magnetic contactor control, air brakes and sanders. Timken roller bearing journals and axles.



UNIVERSAL CUTTERS

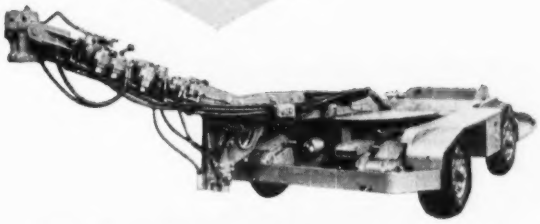
Cutter bar can be rotated and positioned to cut anywhere in the seam — top or bottom cutting and shearing. Will make 30′ horizontal cut. Also SHORTWALL coal cutters.





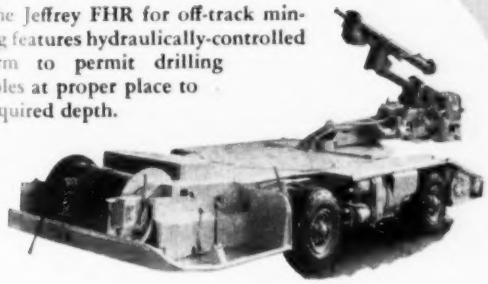
COLMOL Continuous Mining Machine

Various models for mining and loading without use of explosives. Mines an entire room 9′ 6″ wide to full height of seam. See this unit during the Show.



ROOF DRILLING MACHINES
The RDR features a specially-designed, hydraulically-operated Arm mounted on either side of self-propelled, rubber-tired truck. Includes impact wrench for anchoring and tightening bolts.

DRILLING MACHINES
The Jeffrey FHR for off-track mining features hydraulically-controlled Arm to permit drilling holes at proper place to required depth.

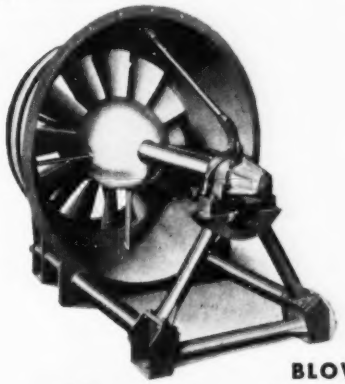


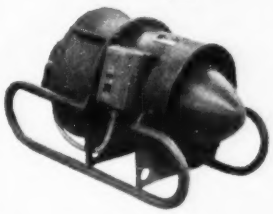
For the past 75 years, Jeffrey has kept pace with the steady growth of mechanization in coal mining. When you attend the May Exposition you will be impressed by the modern equipment Jeffrey has on display.

Today, Jeffrey offers a well-rounded line of coal mine machinery covering all phases of operation — drilling, cutting, loading, conveying, hauling, gathering, ventilating as well as preparation equipment for the top-ground plant.

Jeffrey engineers will help you determine the machine best suited to your operation both from the standpoint of increased production and low-cost operation. Consult them on your requirements.

AERODYNE FANS
A Jeffrey 12-A-58 Fan will be shown. It has 13" W. G. maximum pressure. Volumes up to 600,000 c.f.m. All Jeffrey fans are engineered to provide proper ventilation for your mine.





BLOWERS
Shown is a 5 H.P. AERODYNE midget Blower with Free Delivery Volume — 6200 c.f.m. Also Universal Blowers.

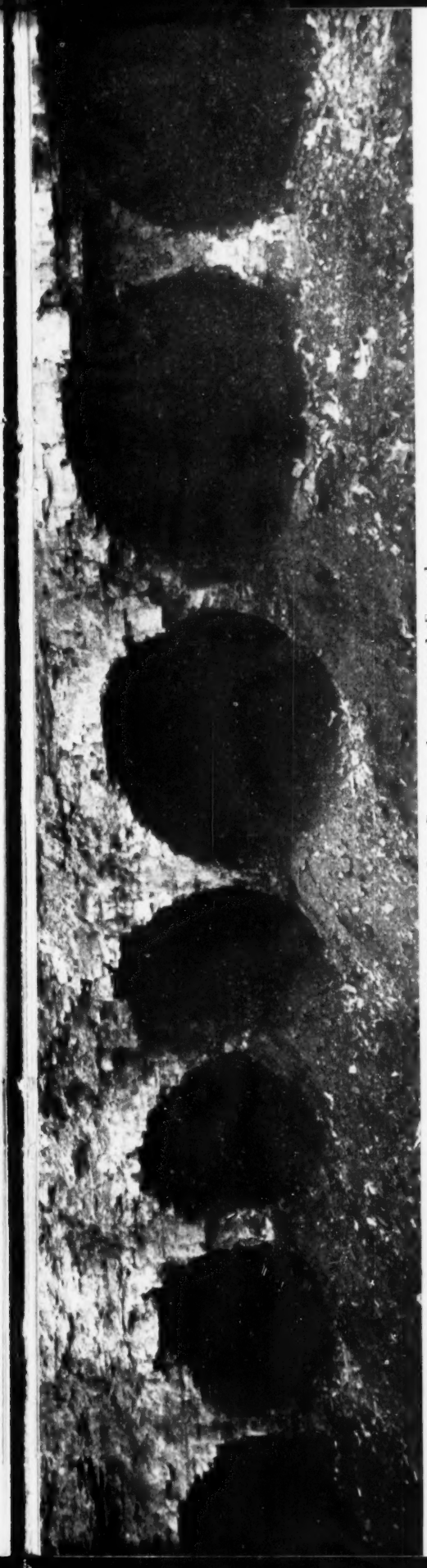
THE JEFFREY MANUFACTURING CO.
ESTABLISHED 1877
Columbus 16, Ohio

sales offices and distributors in principal cities

PLANTS IN CANADA, ENGLAND, SOUTH AFRICA

IF IT'S MINED, PROCESSED OR MOVED
. . .IT'S A JOB FOR JEFFREY!

The Compton Coal Auger in the No. 1 pit of the Swisher Coal Co.



The highwall after the auger has recovered the coal.

The Lima 1201 shovel stripping in the No. 1 pit of the Swisher Coal Co.

STRIPPING COAL IN SOUTHEASTERN OHIO

It is said that it is becoming impossible to make any distinction between living bodies and lifeless mechanisms.

Considering some of the late tools that man the tool making animal is devising to save labor and help him master the forces of nature, such as electronic computers, it is becoming harder to distinguish between living and lifeless mechanisms.

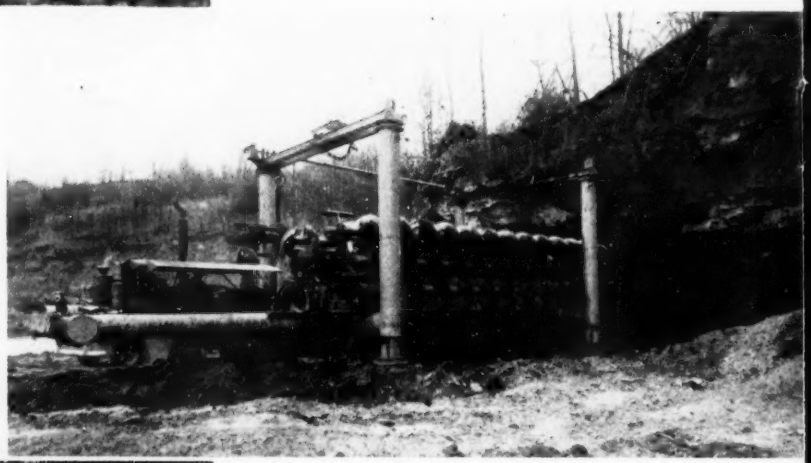
Though the late automations seem fantastic, they are no more than elaborations of simple aids to arithmetic, developed over many centuries. For example centuries ago, mathematicians used the abacus, consisting of a frame equipped with a number of horizontal wires each having 10 beads threaded on it. A bead on the first wire represented a unit, each bead on the second wire 10 units, each bead on the third wire one hundred units and so arithmitical calculations were performed. Movement of beads from one side of the frame represented additions. When beads were at one end while another operation was proceeding, a number was being stored. In terms of our present electronic computers, the abacus remembered numbers.

Present automation engineers have replaced the bead on the abacus with much more movable electrons and the straight wires by complex conducting circuits to develop devices in which numbers can be added in a minute fraction of a second in elaborate groupings to develop machines to do what

The A-C, H D-20 tractor preparing ground for the Highwall Auger at the No. 1 pit of the Swisher Coal Co.

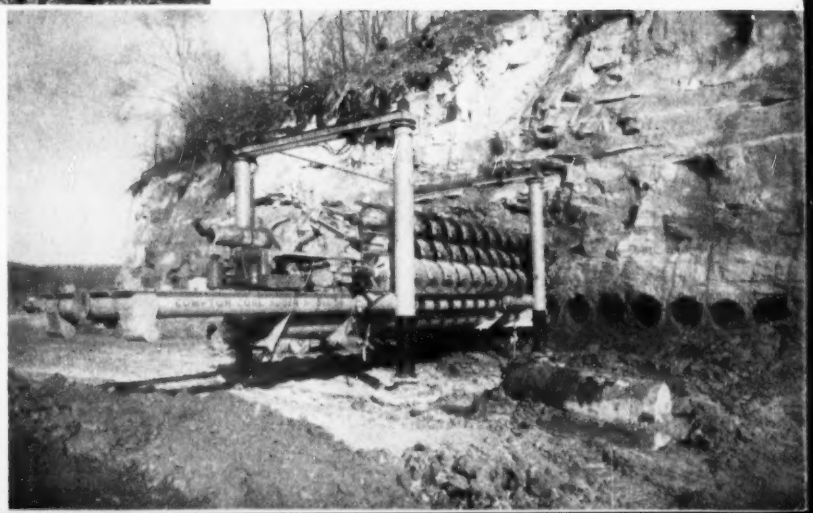
The International TD-24 tractor pushing spoil dumped by the Lima shovel at the No. 1 pit of the Swisher Coal Co.

The Compton Coal Auger at the No. 2 pit of the Swisher Coal Co.



The A-C, H D-20 tractor preparing ground for the Compton Auger at the No. 2 pit of the Swisher Coal Co.

The Model 56 Compton Coal Auger with new improved augers at the pit of the Middleport Coal Co.



man wants them to do.

Man already has more automatic contraptions around him than he realizes, like the home refrigerator, the simple fuse in his house lighting system and the more complicated automatic heating system which controls the heat in his house provided several tied-in gadgets are all properly set.

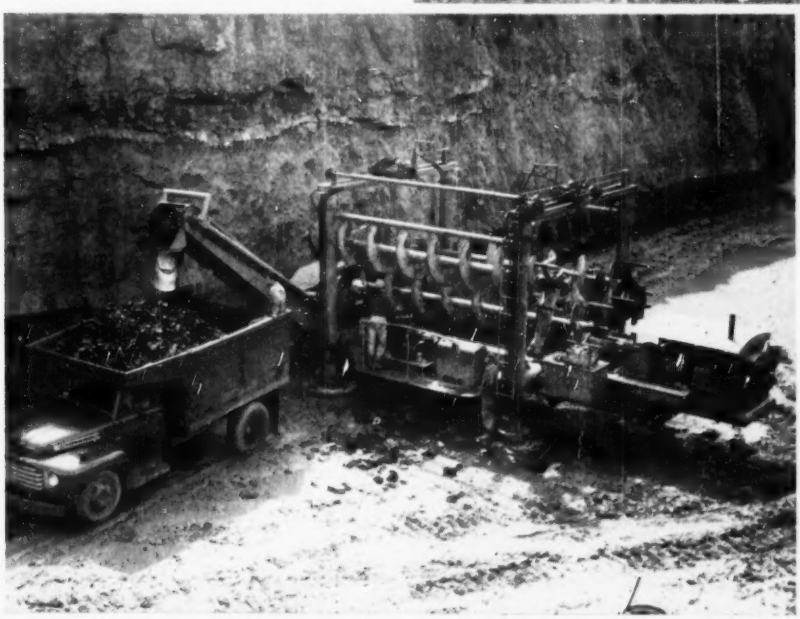
In underground mining we have had for some time now automatic reclosing circuit breakers on the power feed lines. Large power companies have mutibreakers on their networks to isolate faulty sections and those breakers are so highly discriminatory they give the impression of thinking. Automatic machines do no thinking, their performances are thought out in advance by automation engineers who make the various settings. The control staff of the particular operation maintains the settings.

Professor of physics and dean of the graduating class of the University of Illinois, Louis N. Ridenour, predicts a general use of information machines as a substitute for human thinking short of the imagination and genius level.

Our most important problem today is the development of a scientific theory of information and how to store it for transmission to

The highwall, the A-C, H D-20 tractor preparing ground and the late Compton Coal Auger at the Middleport Coal Co.

The Lima 1201 Shovel (above) has just finished loading coal for the day and is working its way out of the pit to go to stripping arear.



This is a new Compton Coal Auger (left) developed for narrow pit work at the Sebring Coal Co. near Nelsonville, Ohio. Length: 36 feet; Weight: Approximately 25 T. Carries 8—20 feet auger sections. Required pit width: 38 feet minimum. Power: 150 hp Diesel engine. Hydraulic frame jack lift: 54 inches. Possible drilling depth: 160 feet. Auger diameter: 42 inches to 24 inches.

The Marion 7400 dragline moving 55 foot overburden at the Ohio River Collieries.

The Marion 111 M shovel stripping sandrock at the Ohio River Collieries operation.

One of the McCarthy horizontal earth drills making shot hole at the Ohio River Collieries.

useful work. When such machines are made reliable and cheap enough, they will be substituted for human beings in routine work where the work is fully routine. Clerical work is one example. Control of any industrial or manufacturing process however is another example. Except for imagination and genius, machines will do the work faster and better.

Coal Stripping in Southeastern Ohio is not the best example in stripping today. It is a developing field and is using late methods and machinery.

Where the southeastern section of the coal stripping area in Ohio begins is anyones guess since the seams being stripped are continuations of the coals in western Pennsylvania. In Ohio the Pittsburgh seam is known as the number 8 seam and is called the Pittsburgh 8 in most cases. At the Ohio River Collieries Company below Pomeroy, they call it the Pomeroy 8-A seam.

For the sake of this story we started at Pomeroy, on the Ohio River and worked South and West to Oak Hill, Jackson and Wellston. At Pomeroy and its vicinity the number 8 seam in what was at one time flat area which has been so

badly eroded that only about one half of the coal has been left. What is left of the number 8 coal lies in hill tops and runs from 40 to 51 inches in thickness and makes a good steam coal. Shipment of the coal is made by either rail of by water. Considerable coal stripping was done in the area during and after World War II and many of the pits have been worked to their economic limits with the type of equipment used. In those pits the recently introduced Compton H ghwall Coal Augers are being used by several of the strippers to get what they can of the coal left in the abandoned pits and in their own pits after the stripping shovel has taken all the overburden it can.

The Swisher Coal Company of Cheshire, Ohio, which uses a Lime Model 1201 shovel to do its stripping is operating two Model 56 Compton Coal Augers. At its main pit the coal runs 51 inches thick and is overlaid with a 10 inch draw slate. The auger drills as much as 200 feet into the coal and has been averaging from 650 to 700 tons per day. As much as 900 tons have been produced. Preparation of the ground and the moving of the drill are done with a Model H D-20 Allis-Chalmers tractor.

At the other pit of the Swisher Coal Company the second auger is working in the same seam of coal which runs about 45 inches thick. There as in the first pit ground preparation is made and the auger

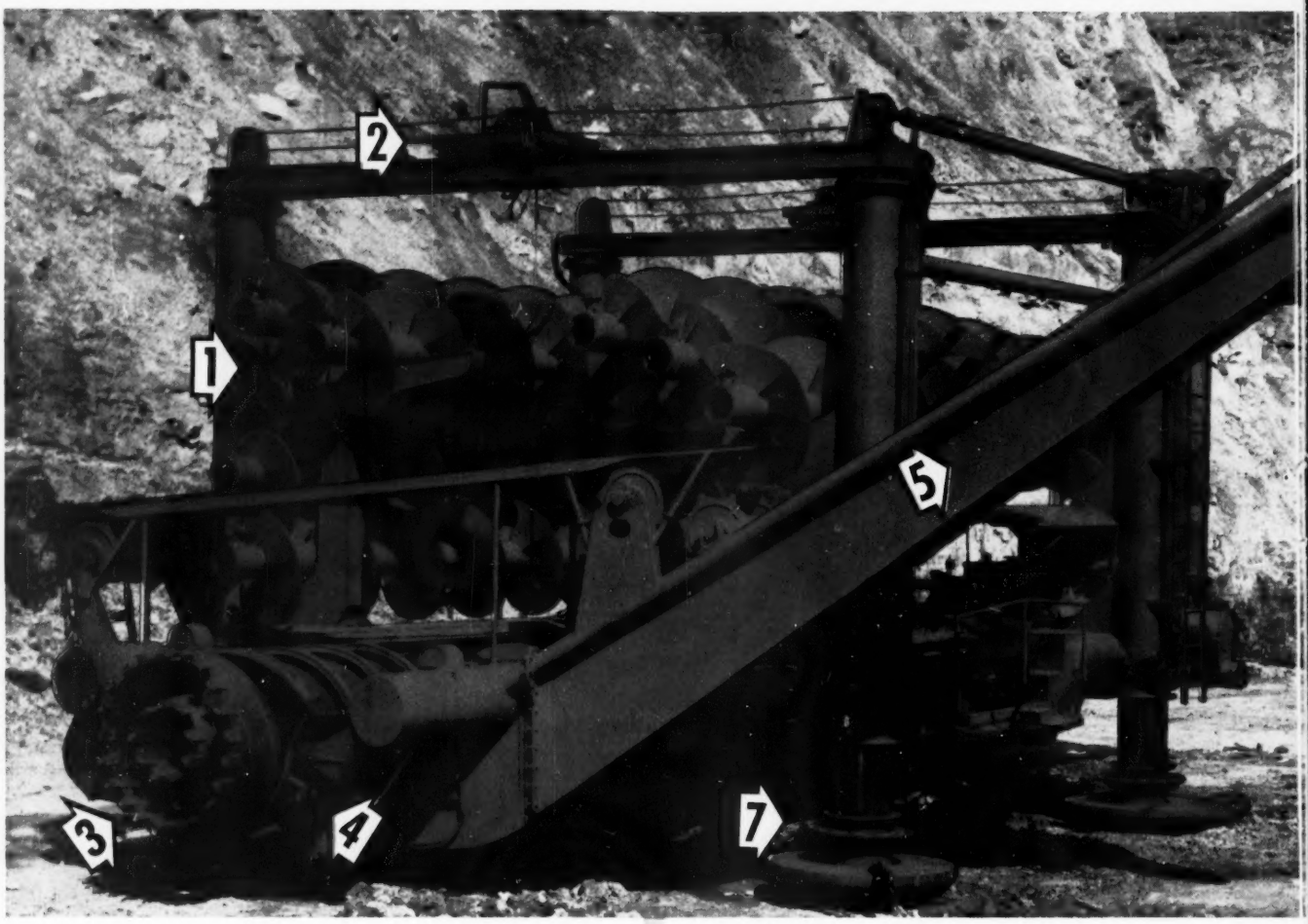
(Continued on Page 24)

The two McCarthy vertical drills, drilling rock at the Ohio River Collieries.

The Marion 33 M shovel loading coal at the Ohio River Collieries.

Gasoline driven pump dewatering pit at Benedict, Inc. near McArthur.

The coal washing plant at Benedict, Inc.



More Coal

regardless of overburden...

Recovers up to 700 tons per shift where overburden removal is too costly

COMPTON

When normal strip mining reaches an economical limit--where overburden removal is prohibitive--the Compton Auger paves the way to rapid high wall coal recovery at minimum cost. With proper planning, a practical 70% recovery is possible up to a depth of 200 feet from the high wall face.

Easily operated and low in maintenance cost, the Compton Auger is high in output . . . actual operations have proven up to 700 tons of clean, lumpy coal per normal shift with a maximum crew of 4 men.

The Compton Auger means increased production at lower cost . . . higher product quality through selective mining. Plan today to profitably extend your present operations or future developments with the use of Compton Augers.

DESIGNED TO CUT OPERATION TIME!

The Compton Coal Auger is self-contained . . . no extra parts to be moved . . . no loose parts to be handled when the unit is ready to move and begin operation.

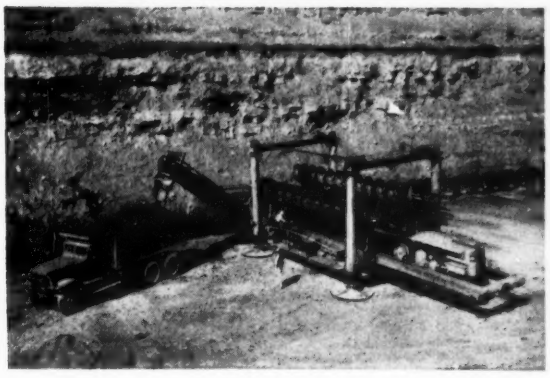
1. Auger sections conveniently racked at each side of the frame ready for transfer to operating position.
2. Hydraulically controlled, synchronized winches for handling auger sections.
3. Auger section can be placed in operating position in a matter of seconds.
4. Hydraulically operated pilot pan eliminates spillage between the machine and high wall.
5. Compton elevating conveyor is an integral part of the machine.
6. Hydraulically controlled, swivelling discharge turret chute assures uniform trimming of trucks.
7. Hydraulic jack legs with self-leveling pontoons that afford better floatation and allow drilling up to 200 ft. or more in depth without misalignment.

SPECIFICATIONS

Model 42	Model 56
Length: 42 ft. Weight: Approx. 33 T.	Length: 56 ft. Weight: Approx. 50 T.
Carries nine 21 ft. auger sections.	Carries six 34 ft. auger sections.
Required pit width: 45 ft. minimum.	Required pit width: 60 ft. minimum.
Power: 225 hp Diesel engine.	Power: 300 hp Diesel engine.
Hydraulic frame jack lift: 66 inches.	Hydraulic frame jacklift: 66 inches.
Auger Diameters: 48 inch to 30 inch.	Auger Diameters: 52 inch to 30 inch.
Possible drilling depth: 189 ft.	Possible drilling depth: 204 ft.

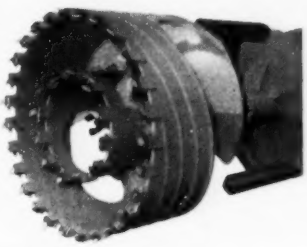
Hydraulic frame jack lift permits drilling of single holes or overlapping holes.

Self Contained Coal Auger



In actual operation, the location of hydraulically-operated turret chute provides two-way loading approach for trucks. Truck maneuvering time is minimized . . . trucks are trimmed to full load without spillage.

NOW—Latest Development in Auger Cutting Heads—A non-clogging head with built-in spider bearing assembly! This new cutter head increases production by drilling straighter holes with less frictional drag.



Consult a Compton Engineer for Details

Compton, Inc.

ORIGINATORS OF COMPTON LUMP RECOVERY HEADS

BOX 1946 — PHONE 4-6384 CLARKSBURG, WEST VIRGINIA

The Lima 2400 shovel stripping at Benedict, Inc.

STRIPPING COAL IN SOUTHEASTERN OHIO

(Continued from Page 21)

is moved by a A-C HD-20 tractor. The coal is loaded directly into trucks which haul it 7 miles to Pomeroy where it is crushed to size and loaded into barges on the river for shipment to market.

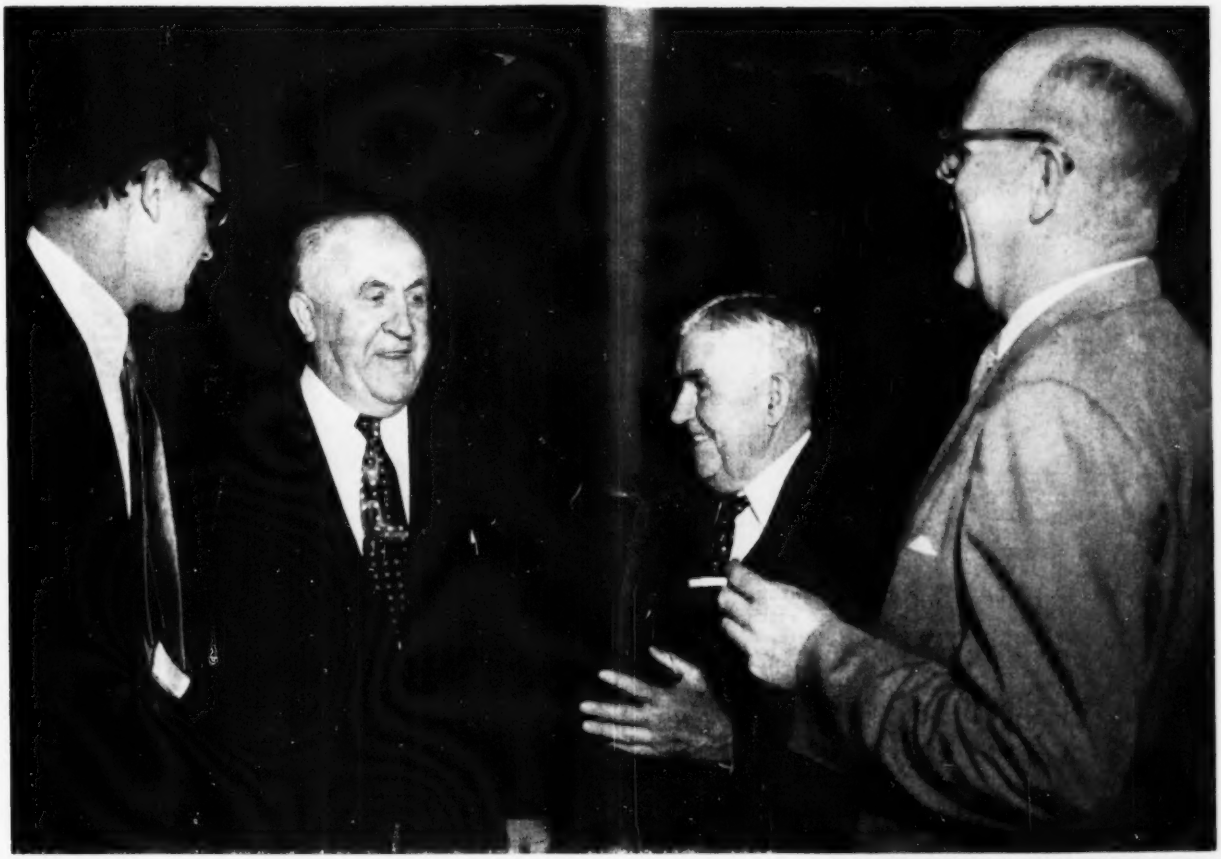
Several miles south of Pomeroy, at Middleport, the Middleport Coal Company is using a Model 36 Compton Coal Recovery Drill on a property on which the number 8 coal is 42 inches thick. This drill is using the new Compton improved auger. Stripping and loading of the coal is done with a 1201 Lima shovel.

Farther South, in the hills along the Ohio River, is the operation of the Ohio Collieries Company with headquarters in Columbus, Ohio. This is the largest operation along the river in that area and is stripping what they call the Pomeroy 8-A seam. This seam runs 3 feet thick and has no draw slate on it. The operation contains about 18,000,000 tons of coal. An average of 40,000 tons is being produced each month in a very badly eroded area. The operation is only 18 months old and already pits can be seen in all directions. Overburden is mostly sandrock on the coal with 3 to 10 feet of shale, then top soil. As much as 70 feet of overburden is moved with a Marion 7400 dragline having 10 yard Esco bucket, a Marion 111 shovel, a Northwest 80-D shovel and two International T D 24 tractors.

This tough overburden is drilled for shooting with two vertical and two horizontal 6 inch McCarthy earth drills. The vertical drills are used in rock only and drill up to 60 feet in 30 minutes. The output is hauled to the river and loaded into barges.

Several coal stripping operations were worked in the Oak Hill district during the last war but only 2 coal strip and several brick plants are stripping there now. The Waterloo Coal Company has a small mine about 6 miles southwest of Oak Hill at which it is stripping the number two seam of coal at the extreme end of the coal bearing strata. The seam averages 24 inches thick. Up to 35 feet of overburden is moved with a Caterpillar D-8 Tractor, a rooter and jackhammer drill, a small Jeager pump and a stockpilling loader. This appeared to be an unusual small operation and pictures of it were taken but we struck bad bilm and could not reproduce the pictures.

North of McArthur, Benedict, Inc. is stripping the 6-A seam, averaging 30 inches in thickness. The cover is mostly shale and up to 50 feet is being moved with a Lima Model 2400 shovel. The coal is washed and screened, Water for washing comes from wells. Used wash water and fines are pumped to 3 settling ponds. Pond water is reused and settlings are removed with a small dragline.



Wm. J. Clements, second from left, new Chief of the Pennsylvania Dept. of Mines and Garfield Thomas, Deputy Secretary to his right. Extreme left is Myron A. Schoffner, Freebrook Corp. and extreme right K. O. Shaner, V. P. Maral Corp.

Western Pennsylvania Coal Strippers Honor New Head, Department of Mines

The Mineral Producers Association, a group of coal stripping men in Western Pennsylvania gave a dinned reception at the Wm. Penn Hotel, Pittsburgh, Pennsylvania, on March 5 in honor of the Honorable Wm. J. Clements, newly appointed head of the Department of Mines in Pennsylvania.

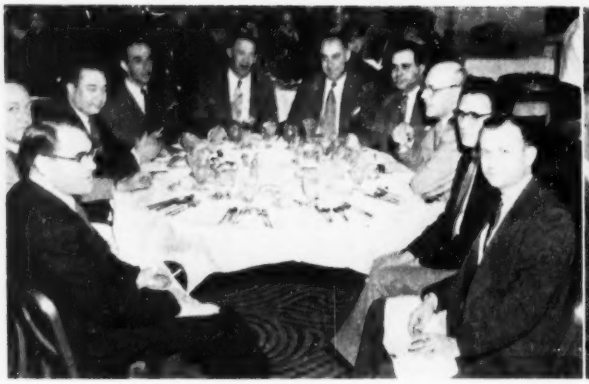
In attendance were Mr. M. A. Crawford, attourney for the association, Mrs. Charles Gutshall, office manager of the department of mines (Pa.), Mr. Garfield Thomas, Deputy Secretary of Mines, a group of coal stripping officials, mine inspectors and representatives of mining machinery manufacturers.

(Continued on Next 2 Pages)

The Honorable Wm. J. Clements addresing the gathering.

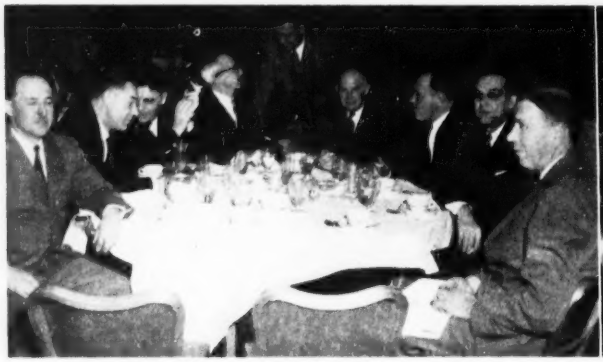
Left: M. A. Crawford, Attorney for the Mine Producing Association, Mrs. Charles Gutshall, Office Manager of the Dept. of Mines, Pa. Wm. S. Clements, Chief, Dept. of Mines.

Left: Allen Davidson, Pres. Mineral Producers Asso. Garfield Thomas, Dep. Secretary Mines, Ray Walker, Bradford Coal Co., F. H. Money, Executive Secretary, Mineral Producers Assn.



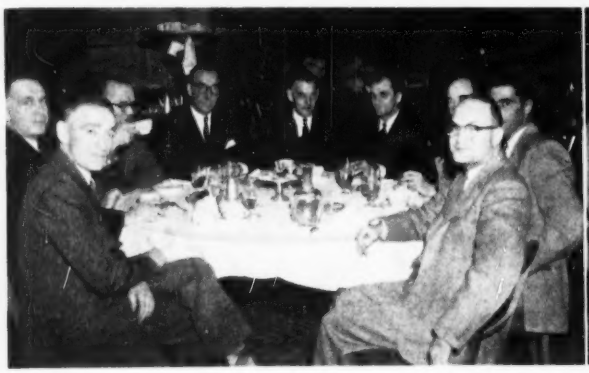
Left: Thomas D. Stauffer, Genl. Council, Freebrook, Corp., C. H. Snyder, Snyder Brothers Coal Co., P. A. Lantzy, Gen Supt. Mech Mining Co.; W. C. Miller, Gen. Supt. Maral Co.; Ross L. Farraro, and Russell Ferraro, Broackway Fuel Co.; K. O. Shaner, Pur. Agt., Widnoon Co.; Myron A. Shoffner, Freebrook Corp.; Fred H. Bentzel, Beckwith Machinery Co.

Left: Paul E. Turner, Merle Urey and John B. Snyder of the Bowie Coal Co.; Clark Meadows, Sunbeam Coal Co.; E. N. Turner, Turner Coal Co., G. R. Bobo, G. R. Bobo Coal Co.; L. J. Cann, Domestic Coal Co.; R. R Bowie Bowie Coal Co.; T. J. Ward.

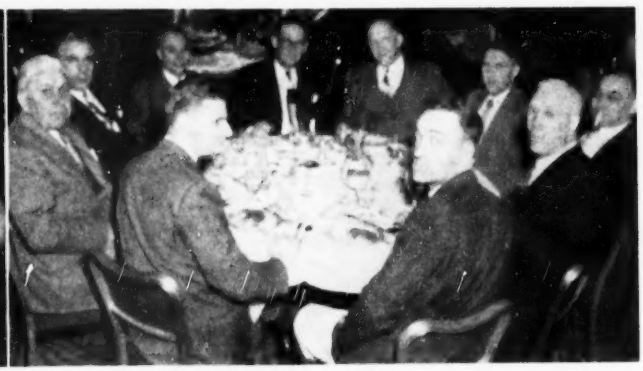


Left: Eric W. Kerr, Field Engineer, Imperial Coal Co.; W. D. Von Bergen, Jr., White Star Coal Co.; W. C. Altvater, V-Pres., Pittsburgh and Shawmut Coal Co.; John B. Brunot, retired, formerly with Irwin Gas Coal Co.; Verie Fritchman V-Pres. in charge of John L. Caruthers, John K. O'Hara and James L. Wetzel, all of the Atlas Powder Co.; R. R. Tyree, Rochester and Pittsburgh Coal Co.

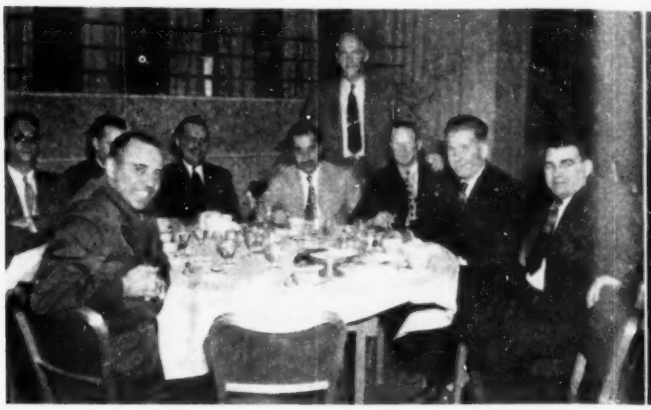
Left: Perry B. Gaddis, David B. Millward, M. A. Thomas, Thomas E. Jones, Olen S. E. Conrad, Wm. J. Ivill, C. E. Fisher, L. D. Dimmel, all Mine Inspectors and W. R. Masteller.



Left: Geo. S. Struble, C. H. Maize, W. R. Cunningham, all Mine Inspectors; C. A. Lynch, Pres. Jos. Woodwell Co.; J. A. Blackbury, and Geo. P. Resick, State Mine Inspectors: D. C. Hogan and J. L. Barnhart, Pittsburgh Coal Co.



Left: C. C. Cornelius, Mining Engineer and J. D. Whalen, Greensburg-Connellsville Coal Co.; R. D. Evans, Evans Coal Co.; A. D. Grasso, Grasso Coal Co.; J S. Schrecengost, Allegheny River Mining Co.; A. K. Bloom, B. R. and P. Coal Co.; Robert J. Emigh, Samuel Cortis and A. J. Nairn, Mine Inspectors, E. A. Watters, Jr., Geo. S. Baton Coal Co.



Left: David Bailey, Capitol Equipment Co.; Allen G. Butler and J. Rembrandt George, Bradford Coal Co.; Finland E. Toy and Plumer L. Toy, of the P. L. Toy Coal Co.; Wm. H. Mohney and M. H. Dickey of the M. D. Coal Co.; Jim O'Neill, United Easter Coal; Chas. E. Freeman, Robert Bailey Coal Co.

Left: C. B. Lozaw, Geo. J. Steinheiser, E. W. Wilkinson, Mine Inspectors, Nicholas Kornick, State Legislator and Insurance Mine Inspector; Frank Sullivan, Strip Mine Inspector; Wm. Powers, Mine Inspector; John Y. Woods and S. A. Bailey, Mellon Institute.

In order to visualize the completed booth (space 1006) at the National Coal Show in Cleveland May 11-14, The Bowdil Company had a scale model built ¼ inch to the foot. Not only did it aid the firm's officers and sales staff in foreseeing space needs at the Show, the miniature model was an easy-to-follow guide for the display builder.

Bowdil Company, located in Canton, Ohio, manufacture cutter bars, chains, bits and related coal mining products, all of which are pictured photographically with the actual products on display in front of the photos. Newest Bowdil product on display is their 1-29 Bit of concave shape which presents a longer-lasting cutting surface.

● Joseph T. Berta, President of Pattison & Bowns, a subsidiary of The Pittston Co., and affiliated with Clinchfield Coal Corporation, has been elected a Director-at-Large of NCA. Mr. Berta was a very valuable member of the Board several years ago when he was President of Pennsylvania Coal and Coke Co. We are glad to have him back and know his services will be valuable in our work.

● The Jeffrey Manufacturing Company, Columbus, Ohio will use approximately the same space at the coal show this year that it used two years ago.

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In Charge — J. E. M. Wilson, V-P

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Pittsburgh 27, Pa.

Two Caterpillar D W-10 tractors attached to No. 10 scrapers, pusher loaded by D-8 tractor at Wyodak Coal Co., Gillette, Wyo.

Caterpillar D-8 tractor with No. 8-U dozer blade clearing trees and brush ahead of the stripping equipment at the R. S. Carlin operation, Snowshoe, Pa.

The same Caterpillar tractor pushing spoil over bank at the R. S. Carlin operation, Snowshoe, Pa.

STRIPPING . . . Fastest Growing Phase In the Coal Mining Industry

By M. B. Crowley
Mining Representative, Sales Development Division, Caterpillar Tractor Co.

The fastest growing phase of the coal mining industry in the past two decades has been surface or strip mining. And playing a major role in this expansion has been the use of earthmoving equipment.

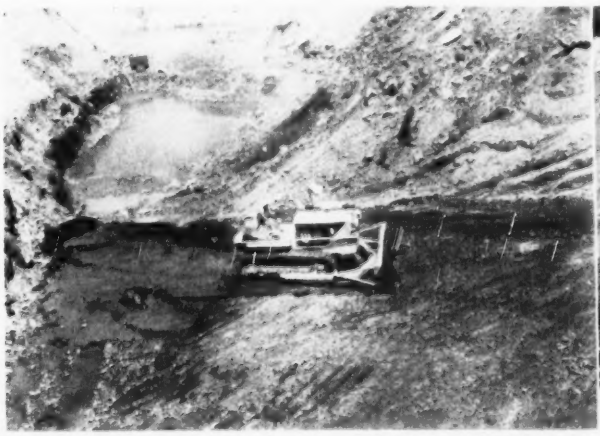
Scrapers, bulldozers, motor graders, rippers and dirt wagons have all found their place in strip mining, a highly developed method of mechanized mining which recovers more coal from a given area at more tons per man hour than underground mining.

According to the 1952 Bituminous Coal Annual, coal production from strip mining has increased 289 per cent since the 1935-39 period. This is compared to the 12.8 per cent that underground mining production has increased during this same period.

In 1930 there were 19,842,000 tons of coal produced by strip mining in the U.S., the Bituminous Coal Annual reports. In 1950 this had increased to 123,467,000 tons. Pennsylvania, Kentucky and West Virginia have shown the greatest expansion and along with Illinois and Ohio are presently the top producers of strip mined coal in the nation.

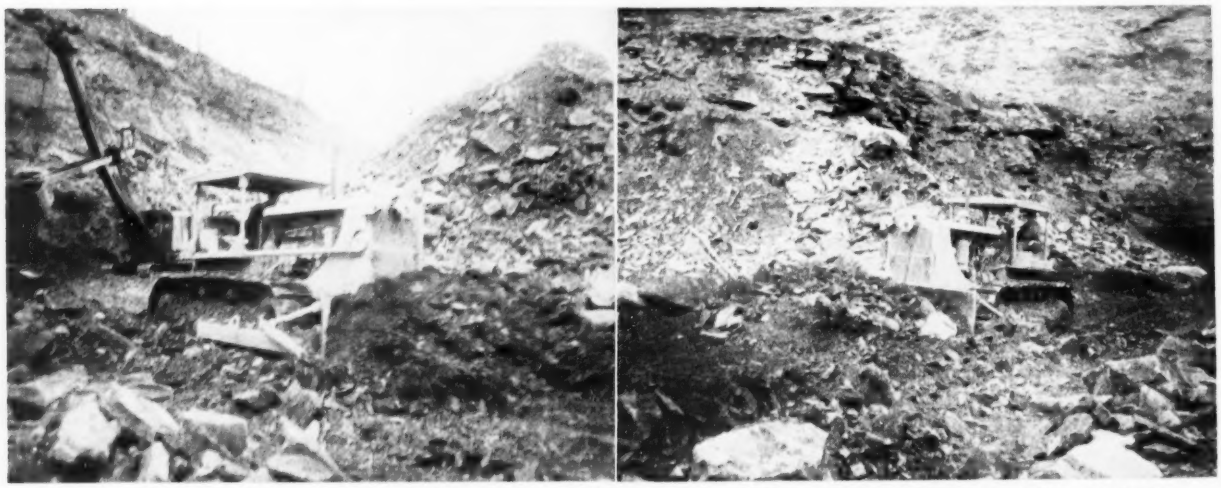
Strip mining methods have shown tremendous advancement in the past 50 years. Originally the removal of overburden to uncover coal seams was done with picks, shovels and wheelbarrows. When the overburden became too thick for this method, horse drawn plows and slip scrapers came into use. Eventually this developed the use of the horse drawn wheeled scrapers.

Scrapers powered by tractors were first reported used at a West Coast Mine in 1933. Several bituminous mines were said to have been using tractor-scrapers from 1934 to 1936. However, according



Caterpillar D-8 tractor cleaning surface of stripped coal at Ruby Construction Co. operation at Madisonville, Ky.

Caterpillar D-6 tractor with No. 6-S dozer bladeworking on the surface of coal at the Crowe Coal Co., Clinton, Mo.



Caterpillar Diesel D-8 Tractor and Cat Bulldozer Blade working on Coal and Clay Stripping Operation of Thomas Brothers Coal Company at Curwensville, Pa. Here 65 feet of overburden is removed to mine 2 feet of coal and 10 feet of clay underlaying the coal. Operator is William Lines. Also on this same job is Manitowac 3500 Stripping Shovel powered by Caterpillar D17000 Engine. A Northwest 80D Shovel is used for loading and is powered by Murphy Engine. A Lorain 80 Shovel is powered by Caterpillar D13,000 Engine.

to a 1947 report by the U. S. Bureau of Mines, "Use of Scrapers and Other Light Earth-Moving Equipment in Bituminous Coal Strip Mining," the first recorded use of the tractor-scrapers for the removal of overburden was in 1936 at the Truax-Traer Coal Co. in Elkville, Ill.

There has been a rapid advancement since that time in the use of earthmoving equipment. One big impetus for the use of this type equipment came during World War II when there was an urgent need for coal to supply the nation's rapidly expanding industry and a shortage in manpower. It was also difficult to obtain equipment for new underground mines and replacements for wornout machinery in operating underground mines.

Consequently, during the war, the production of coal from strip mines almost doubled. There were 55,100,000 tons of coal mined by stripping in 1941 and by 1945 this was up to 106,000,000 tons.

Many small areas of strippable coal, particularly in Maryland, Pennsylvania and West Virginia were developed, primarily through the use of earth moving equipment which is particularly adapted to the hillside and hilltop stripping found in these areas.

Scrapers, drawn by both track-type and rubber-tired tractors, and the bulldozers have proved to be particularly versatile in coal strip mining applications. In some stripping operations, this type of earthmoving equipment is used exclusively in the removal of overburden and it is also being accepted more and more as auxiliary equipment in the operations where large shovels and draglines are used for the removal of overburden and loading of coal.

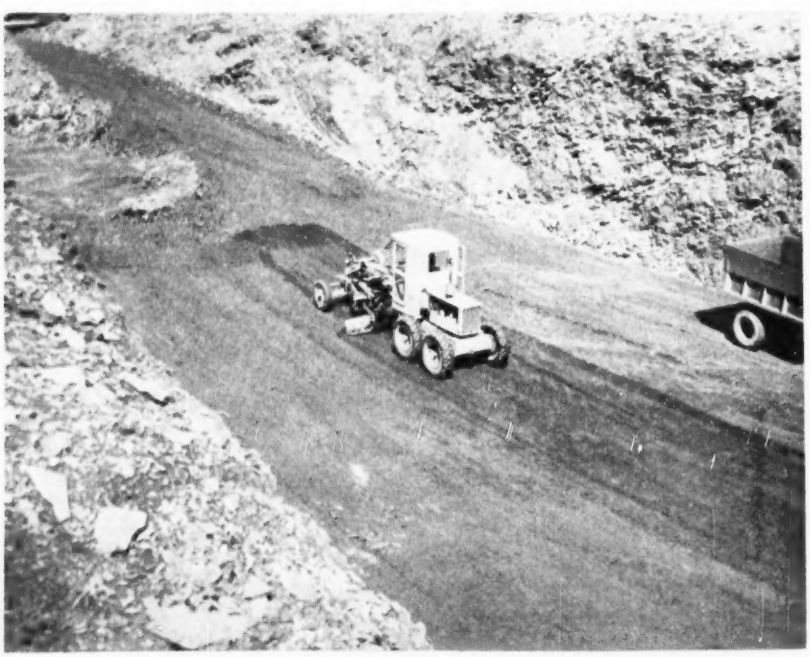
Scrapers, however, are not suitable for digging rock unless it has been broken up either by a ripper or by blasting.

One situation which adapts itself readily to the use of scrapers for the removal of overburden, whether it is a large or small operation, is where there is inadequate spoil room for a shovel or dragline to operate. This is the case when the coal outcrop is bordered by property lines, highways, streams, railroads or pipelines.

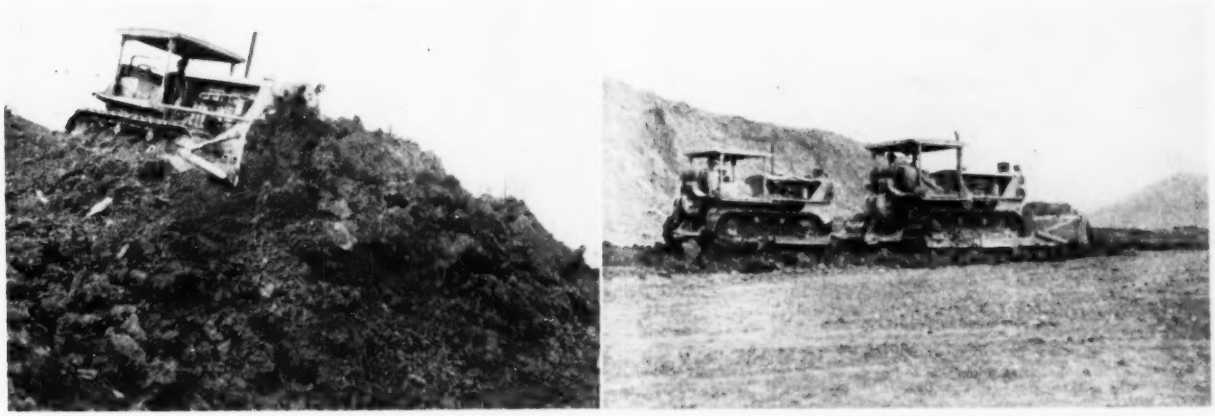
Strip mine operators have found a variety of uses for scrapers and bulldozers in conjunction with their shovel or dragline operations. They are as follows:

1. Auxiliary stripping where overburden is so thick that the top material must be removed to allow the shovel to work within its limits.

2. Stripping wet top layers which might cause continued slides into a



Caterpillar No. 212 Grader cleaning surface of stripped coal at the operation of the Dunlo Coal Co., near Berlin, Pa.



Two views of a Caterpillar D-8 tractor equipped with a No. 8-A bulldozer working at the Coleman and Gay strip mine near Buchannon, W. Va.

shovel making it impractical to use shovel draglines.

3. Widening a bench at the side of the pit to provide greater casting area for shovel or dragline.

4. Construction and maintenance of drainage ditches and haul roads.

5. To maintain the shovel cut so there will be no obstructions to the movement of a mobile shovel or dragline into a new working area.

In addition bulldozers are called upon to clear land of timber and brush, shape and maintain spoil areas, clean loose dirt from atop the coal seam when the loading operation is ready to begin, remove overburden when the haul distances are short and along with all of these act as a pusher in loading of scrapers.

Generally the bulldozers used in stripping operations are mounted on track-type tractors. However, there are some mines where large rubber-tired tractors with bulldozer attachments are being used for lighter cleaning and maintaining work. The advantages of this are their higher mobility and the fact that when working close to the coal seam they do not damage the coal. However, they lack the tractive power of the track-type tractors and can't operate in as rough terrain.

Methods which have been used profitably for many years by excavator and earthmoving contractors have also been incorporated in the use of this lighter more mobile earthmoving machinery in strip mining. Such things as loading scrapers and bulldozing down the slope to get bigger loads faster; using motor graders to maintain haul roads to cut haul times and cut wear on the machines; using rubber-tired hauling tractors on the longer dirt hauls and track-type tractors on shorter hauls, and the pushloading of scrapers have all proved practical in coal strip mining.

The use of this type of earthmoving equipment does not stop when the actual digging of coal starts.

There have been cases where scrapers have been used to load and transport the coal from the seam. However, the breakage incurred in this operation has a tendency to lower the quality of the coal.

Coal haulers are generally bottom dump trailers pulled by truck-tractors which carry from 25 to 75 tons and in a few instances as much as 100 tons. However, there are some operators where the large dirt wagons, pulled by rubber-tired tractors, are being used for this operation. Their capacities run from 10 to about 35 tons.

It is possible that on smaller operations where the mine operator wants to get the maximum use from his equipment, open bowl scrapers can be shovel loaded and used for coal hauling. Scraper capacity runs from about nine to 25 tons.

Scrapers, bulldozers and motor graders are also used to maintain coal stock piles at the loading points.

The Hanna Coal Company has even another use for scrapers after the mining has actually started. According to Donald Saxton in a speech before an earth moving industry conference in Peoria, Ill., last year, he reported that his company uses scrapers for the removal of refuse at the coal preparation plant. In order to prevent burning of the coal a layer of earth is placed over a layer of refuse or the refuse is spread in thin layers and compacted by the machines running over it. In both cases, scrapers proved ideal since they could maintain the necessary proportion of earth and refuse without outside help from shovels or bulldozers and also provide the necessary compaction.

After the coal stripping has started scrapers, bulldozers and motor graders continue to maintain the haul roads for the vehicles which are transporting the coal to the hopper or stock pile.

When the mining operation is completed, these machines are still on the job restoring the mine area to a point where it can be reseeded and reforested.

John W. Schoen

R. G. LeTourneau, Inc., manufacturer of earth moving equipment, announces the appointment of John W. Schoen as vice-president and general sales manager, succeeding R. E. McClusky who has resigned. After graduating from Iowa University, Mr. Schoen worked with Logan Long, Chicago, E. R. Squibb Pharmaceutical Co., Firestone Tire & Rubber Co., and was vice-president in charge of sales four years with LaPlant-Choate Mfg. Co. Early this year he became a consultant for David Brown Industries, a British manufacturer of construction and agricultural equipment, the position he held before joining LeTourneau.

Stripping 100-Foot Barrier Pillar Abandoned in Deep Mining

Years ago when all grades of coal were plentiful in the earth methods of mining were not so strict as they now are and properties were abandoned without recovering barrier pillars. As special purpose coals became more scarce pillars in those seams became more valuable. During and shortly after World War II many new openings have been made in those abandoned mines to recover left barrier pillars but economics in that type of mining did not permit extensive operation.

The newer type of stripping equipment used with the late methods of moving overburden is now being used to recover pillars in the high grade coking coal area of Western Pennsylvania. At Bitner, in Fayette County, the Marcolino Coal Company of Uniontown is stripping a 100 foot wide, 9 foot thick pillar of the high grade Connellsville coking coal. A box cut was made and overburden is being hauled out of the pit in two Model 80 Caterpillar scrapers having 18 cubic yard heaped capacity and pulled by Caterpillar D-8 tractors. Haul to the spoil bank is about 300 yards.

Overburden is 6 to 8 feet of top soil, about 9 feet of hard sandrock, then hard blue shale down to the coal. The overburden is drilled for shooting with a Hardsock earth drill. The scrapers are loaded with a Model 820 Lorain shovel which will also load out the coal.

EUCLID INTRODUCES NEW "LEVER ACTION" SCRAPERS

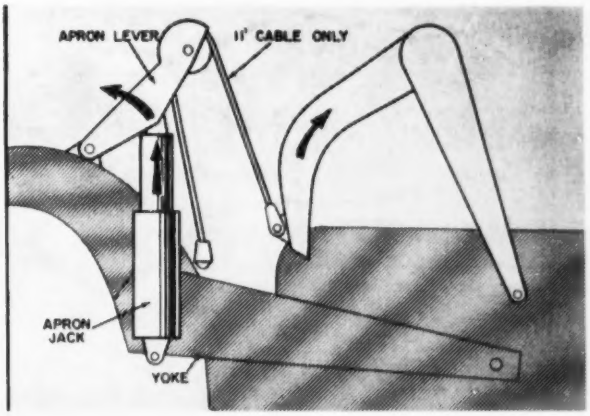
● A complete line of improved scrapers is announced by the Euclid Road Machinery Co. In addition to its standard 15.5 cubic yard scraper and 18 yard twin-power unit, Euclid is building a new 12 yard model.

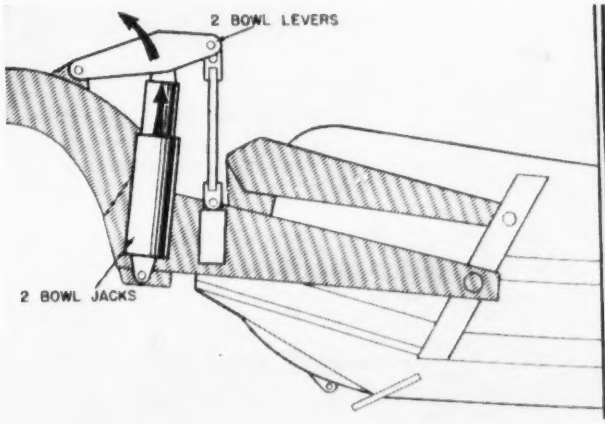
All three models feature the introduction of a "lever action" design used in connection with an improved and simplified hydraulic system.

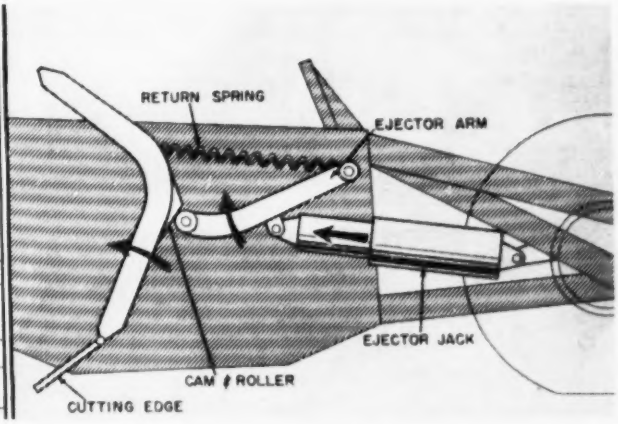
Levers replace cables and sheaves formerly used to multiply the stroke of hydraulic jacks actuating the bowl lift, apron lift and roll-out ejector. The jacks for the bowl lift and apron lift are mounted vertically and have been incorporated in the torque tube. This, together with the lever arrangement, lowers the height of the scraper nearly two feet, providing a clean appearance and making it easier to top load with shovels and draglines. Approximately 90 feet of control cable is eliminated.

Jacks are controlled by an improved and simplified hydraulic system. Various components of the system have been grouped together in a hydraulic package placed on the front of the tractor. The pump is mounted internally in the hydraulic tank, simplifying piping and eliminating the use of suction lines. Controls are faster acting and greater accessibility for servicing is provided.

Two lever action hoists raise the bowl to a maximum height of 28 inches. The apron is lifted by a hoist and lever connected to the apron by 11 feet of cable. This is the only cable used on the scraper. Both the apron and ejector can be operated together for high speed spreading.







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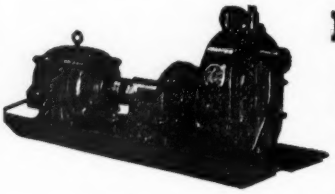

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PITTSBURGH 20, PA.

● Dr. Edward Steidle, dean of the School of Mineral Industries at the Pennsylvania State College since 1928, will retire with emeritus rank on June 30.

His retirement was announced today by President Milton S. Eisenhower, who also revealed that Dr. Elburt F. Osborn, associate dean of the school, will succeed Dean Steidle.

● R. E. Salvati, President of Island Creek Coal Company and Pond Creek Pocahontas Company, has announced the retirement of H. L. Smith, Financial Vice President of both companies, after almost forty-four years of service. Mr. Smith will be succeeded by R. W. Laxson who was named a Vice President. Mr. Smith was formerly Comptroller of the companies.

In addition, Mr. Salvati announced that John J. Foster, who has been serving as Assistant to the President of the companies in charge of industrial and public relations, was also elected a Vice President.

Headquarters For
Hendrix Dragline Buckets
From Stock
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DRAVO

SALEM "HERCULES" AUGERS FOR ELECTRIC DRILLS
Made To Withstand High Drilling Speed, Whip And Torsional Strain Of Electric Drills

Drills holes faster – Will not snap off shank or chip points – Outlasts four or five ordinary augers
THE SALEM TOOL COMPANY SALEM, OHIO, U.S.A.

● Election of Samuel B. Casey as a member of the board of directors of Mine Safety Appliances Company, Pittsburgh, has been announced by George H. Deike, president of the firm.

SAMUEL B. CASEY

Mr. Casey, who is chairman of the board of Swindell-Dressler Corporation, John F. Casey Company, and New Castle Refractories, succeeds the late Howard Zacharias on the board of the safety equipment company, which is the world's largest in its field.

Among other firms of which Mr. Casey is a director are Equitable Gas Company and Pittsburgh Screw and Bolt Company. He is a trustee of the Carnegie Institute, the Carnegie Institute of Technology, and Shadyside Academy; and a director of Mercy Hospital and Children's Hospital.

● Electric Steel Foundry Company of Portland, Oregon, announces the opening on February 1st of a new branch office in Salt Lake City.

The Salt Lake City office is the answer to a need for more close-to-home coverage of the intermountain territory comprising Utah, Colorado, Southeastern Idaho and Southwestern Wyoming and will afford greatly improved service to ESCO customers and dealers in that region.

Garland T. Allen, who has been representing ESCO in the Portland area for about 11 years calling on logging, construction and processing industries, is Manager of Sales based in the Salt Lake establishment. He is an able choice for this new assignment and is thoroughly familiar with ESCO's diversified lines of products and equipment. The establishment will consist of an office located at 1455 South Second West and it will draw on ESCO's coast

GARLAND T. ALLEN

warehouses for stocks to supply the territory's requirements.

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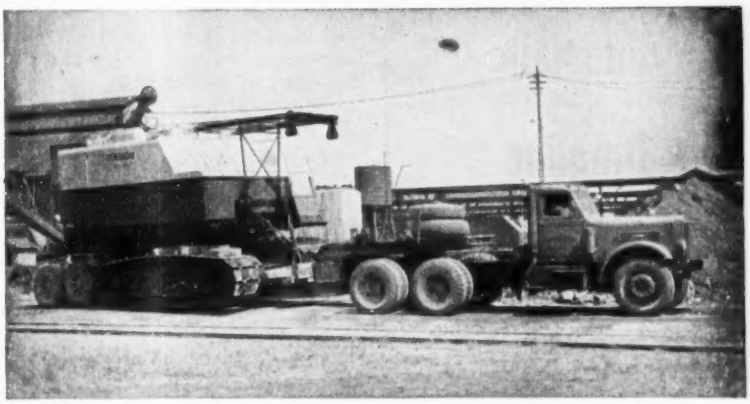

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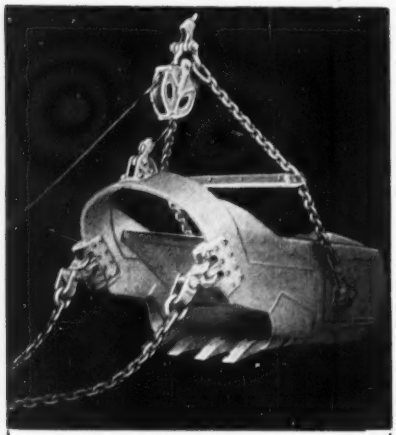

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Automatic
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Buckets

Repairs for ALL Page
Dragline Buckets

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EQUIPMENT CO.

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Pittsburgh 22, Pa.

PHONE: COurt 1-5225

● A career of thirty-five years as salesman with one company was brought to a close a few weeks ago as Mr. Theodore A. Mensing, leading salesman for Beckwith Machinery Company of Pittsburgh, Pennsylvania, was tendered a retirement dinner by Mr. George N. Beckwith, President.

Regarded nationally as a pioneer in the application of Caterpillar Diesel front-end shovels or "high-lifts," as they are commonly known in the trade, Mr. Mensing sold over 500 of the tractor-mounted shovels since they first appeared on the market.

Mr. Mensing joined Beckwith on March 1st, 1918 and is well known in construction and mining circles of Allegheny County, where he represented the company in sales of Caterpillar Tractor Company Products as well as Bucyrus-Erie excavators and other construction and earthmoving machinery.

Beckwith Machinery Company is the only business concern with which he was affiliated; he started with the equipment distributor as a clerk, soon graduating to the sales force.

Although Mr. Mensing resides with his wife, Fannie B. Mensing, at the Fairfax Apartments in Pittsburgh, Pa., the Mensings at present are vacationing in the South West. They plan to visit Mexico City, Acapulco, and the West Coast.

The Mensings also maintain a summer home at Keuka Lake in New York.

Mr. James A. Redding is now associated with Mr. Harold C. Lusk who are representing Barrett,

JAMES A. REDDING

Haentjens & Company, Wilmot Engineering Company, Laubenstein Manufacturing Company and Osmose Wood Preserving Company in the Pittsburgh area. Mr. Redding has had considerable experience in having worked in the construction department of Roberts & Schaefer Company and for the past several years has been Preparation Engineer for Jamison Coal & Coke Company at Greensburg, Pennsylvania. Mr. Redding attended the Missouri School of Mines and graduated from the University of Pittsburgh as a mining engineer. Jim Redding and Harold Lusk will continue to represent the above companies for mine drainage, preparation plant equipment and treated timber.

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TELESCOPIC HOISTS ...do it the easy way up to 50 ton capacity

1—Rugged Construction.

2—Fan and Gusset type hinge. 16" bearing surface . . . 3" rear shaft.

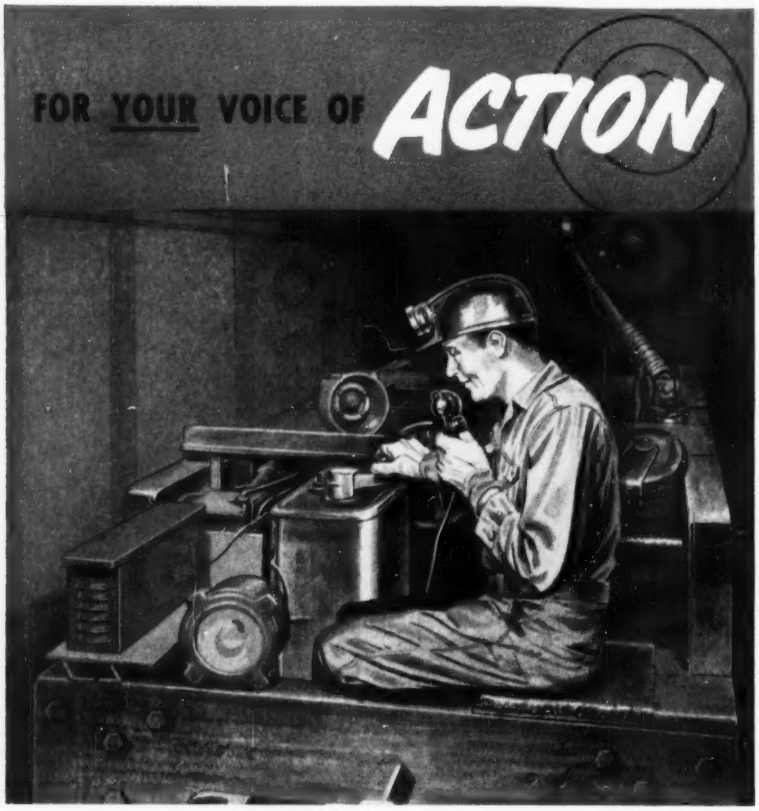
3—Polished and ground sleeves.

4—Heavy duty 2½" roller bearing pump and hoist meter.

HERE is a telescopic hoist that was designed as a rough and ready companion for Penn Steel Dump Bodies. Requiring a minimum of maintenance and built to give long trouble-free service, Penn Telescopic Hoists lift heavy loads with ease without the risk of bending or twisting. No cams, levers, arms or rollers are used—lifting power is applied directly to the load. BE SURE OF THE BEST—Specify PENN!

PENN BODY DIVISION HOCKENSMITH CORPORATION

Telephones: Jeannette, Pa. 700 . . . Pittsburgh, Electric 1-1242 PENN, PA.



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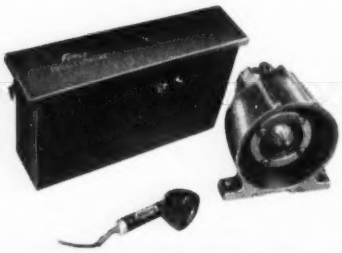
TROLLEYPHONES
provide low cost
COMMUNICATION
ON MINE LOCOMOTIVES



Haulage costs go down—production goes up, when Femco equipment is installed on your diesel, trolley or battery locomotives. As many moving or fixed stations as you need. All talk—all hear.

Other Femco Products of Merit include:

Femco AUDIOPHONES

Fixed-point industrial communication

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Movable as your work progresses

- Femco Communication Systems GET THINGS DONE faster - better - cheaper!
- Easy to BUY or LEASE
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- DEMONSTRATIONS ARRANGED

FARMERS ENGINEERING & MANUFACTURING COMPANY
IRWIN, PENNSYLVANIA

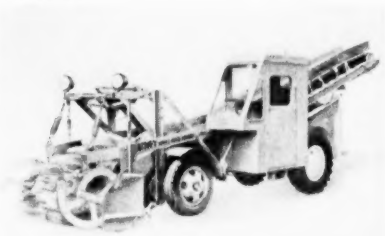
Ask for YOUR Femco Data Kit

Specialists in Electronic Communication and Control

● A new high-speed stockpile loading attachment has been developed by Athey Products Corporation for their Model 3 Force-Feed Loader. Their Force-Feed Loader, the original one on the market, has long been considered the best tool for loading windrowed materials such as found on road maintenance work. The new auger-type feeding mechanism will pour forth a constant stream of free-flowing stockpiled material at volume rates of up to 10 cubic yards per minute. It is ideally suited for loading such material as coal, gravel, crushed stone, coke, dry chemicals, or any free-flowing stockpiled material.

Designated the "Bulldozer Moldboard-Auger Feeder," the attachment is available either as original equipment on loaders shipped from the factory or as an attachment which can be installed on machines already in the field. The attachment includes a bulldozer type moldboard which extends across the loader to provide a 90-inch width of gather and has positive hydraulic down pressure on reversible cutting edges.

A special feature of the "Bulldozer Moldboard-Augar Feeder" are the side boards at each end of the moldboard. These sideboards may be reversed, as shown in the illustration, for loading from windrow or set as shown by the dotted lines for loading from stockpile. When set for stockpile loading the sideboards prevent material from building up in front of the front wheels.



The Athey Force-Feed Loader, which the attachment is designed for, is a self-propelled type with a full-floating feeding mechanism with an undershop operation which crawls over hard-to-handle material and pulls it back onto the 30-inch wide conveyor belt.

Athey Force-Feed Loaders are handled by all Caterpillar-Athey distributors. Literature on the new machine is available from the factory: Athey Products Corporation, 5631 West 65th Street, Chicago 38, Illinois.

It's as near as your telephone . . .

Efficient equipment is the key to peak production . . .

Faster! So phone your Highway representative today. He'll be happy to survey your job, check your equipment requirements and make practical, common sense recommendations that will save you time and money.

Jaeger Pump dewaters pits, provides drainage, eliminates water problems at CHUTZ BROS. COAL CO., Slippery Rock.

Lima 1201 high lift shovel boosts production totals at WEIRTON CONSTRUCTION CO. strip job, Weirton, Pa.

At MICHIGAN LIMESTONE CO. job near New Castle, Allis-Chalmers scraper speeds up stripping.

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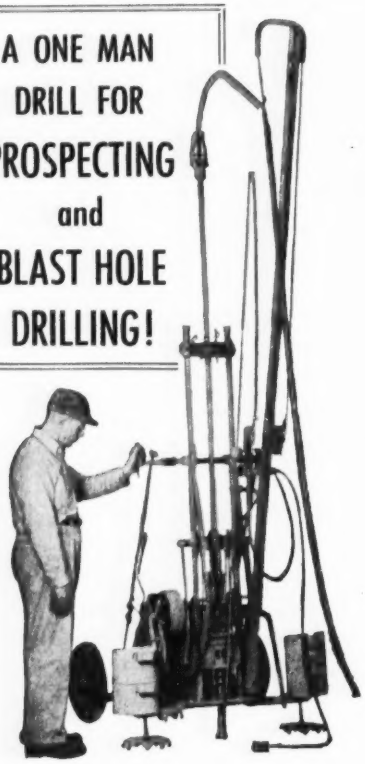

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It's a compact unit that can be moved into hard-to-get-at places.

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Light!

Fast!

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Powered from the hydraulic power system of standard mining equipment, the Schroeder 12-B Coal Drill provides plenty of power for fast drilling with complete operational safety—never any spark, kick, or shock—all electrical hazards are removed yards from the drill! Lightweight and dependable, its design simplicity and minimum of parts result in greatly reduced maintenance costs.

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HYDRAULIC, ELECTRIC & PNEUMATIC MINING EQUIPMENT

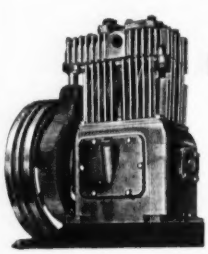
EXpress 1-1571

● Use of the MSA "MinePhone" for clear, two-way voice communication throughout the mining operation—dispatcher, shop, locomotive, loading point, maintenance and office—is pictured and described in a new bulletin issued by Mine Safety Appliances Company, Pittsburgh.

Advantages of using this communication system, the bulletin states, include the keeping of mainline haulage ways free of traffic tie-ups; reducing chances of error and accidents; preventing excessive stop-and-start strain on haulage equipment; avoiding excessive power loads for more economical operation; coordinating trip traffic for safer, more productive haulage control; maintaining better distribution of cars for peak loading efficiency, and speeding up maintenance crew operations.

The bulletin points out that the MSA MinePhone is engineered and built for Mine Safety Appliances Company by the Union Switch & Signal Division of Westinghouse Air Brake Company, manufacturers of train communications systems used by many U. S. railroads.

Copies of the bulletin, No. 1601-1, are available without charge or other obligation on request to Mine Safety Appliances Company, Braddock, Thomas and Meade Streets, Pittsburgh 8, Pa.



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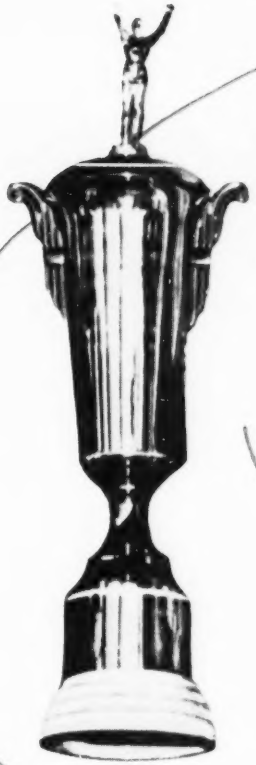


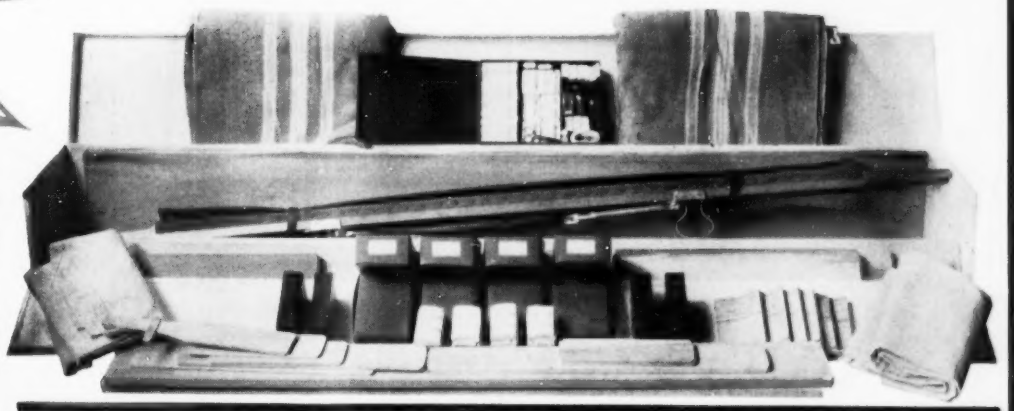
When you're out to get that cup...

the M.S.A. CONTEST OUTFIT

and training materials

get your team off to a

FAST START



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- 6 1 yd. Packages Sterile Gauze
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- 6 Paper Drinking Cups
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- 1 Set of 18 Wood Splints
- 1 Pair 4" Bandage Scissors
- 3 Army-Type Tourniquets
- 48 40" Triangular Bandages, unsterilized
- 12 1" Compress Bandages, unsterilized
- 12 2" Compress Bandages, unsterilized
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- 2 7' Lengths ¾" Pipe for improvised stretcher
- 4 Wood Blocks for heat applications
- 6 U. S. Bureau of Mines First Aid Manuals
- 2 Padlocks
- 1 Strong Steel Box, as illustrated

Designed to bring greater speed and efficiency to the solution of every accident problem, the M.S.A. Contest Outfit and materials are the development of years of practical experience with first aid training and competition needs. All required materials are neatly arranged and instantly accessible to permit immediate selection of the right materials, at the right time.

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Euclid Model 2-FD-27-FD 8 TD rear dump trucks with Cummins 6-cylinder Diesel engines.

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625 Page Diesel Walking Dragline, with 150′ boom, 9 yd. bucket, two Page diesel engines.

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2400 Lima Dragline, with 120′ boom, 5½ yd. bucket and Cooper-Bessemer engine. Excellent condition.

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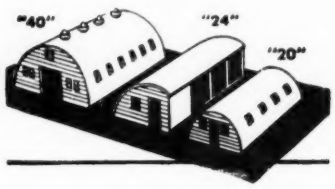

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COAL MINING

APRIL, 1953

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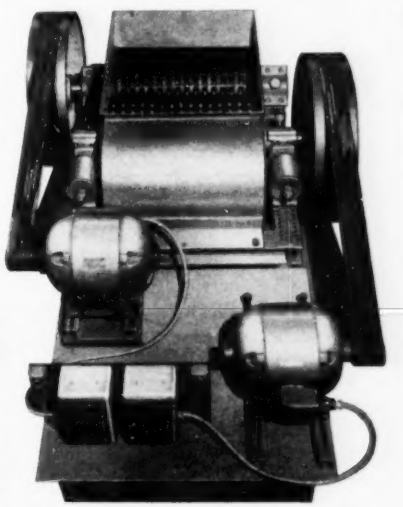
SCOTTDALE *double-roll* COAL CRUSHERS



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Widespread demand for the 2-cycle GM Diesel engine results from its ability to *get more work done faster and at lower cost*. GM Diesel's fast acceleration boosts production. Smooth 2-cycle operation reduces wear and extends engine life. Convenient location of accessories simplifies maintenance. What's more, GM Diesels definitely cost less to maintain and repair because parts cost less, are highly interchangeable and are available everywhere. See your GM Diesel distributor or write us for full information.

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SINGLE ENGINES...32 to 275 H.P. MULTIPLE UNITS...Up to 840 H.P.

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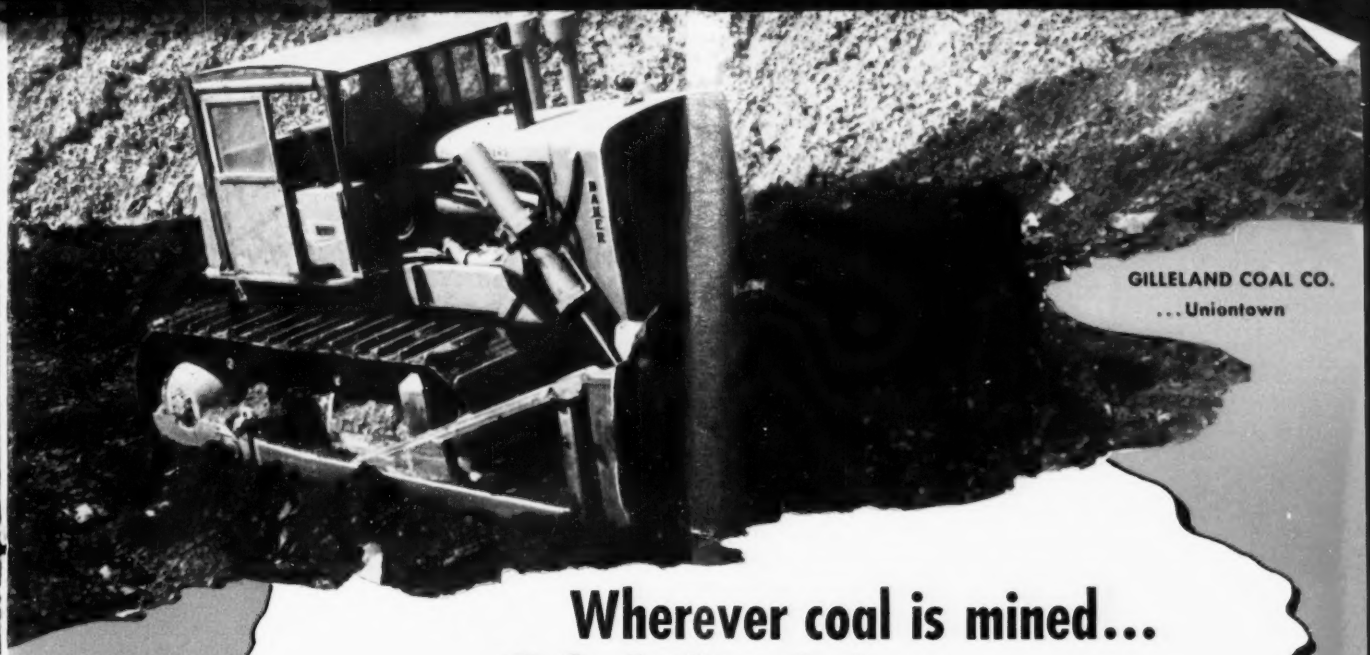
GM GENERAL MOTORS DIESEL POWER

Write for booklet, "A 50,000,000 Horsepower Insurance Policy" that tells you why.



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Wherever coal is mined... you'll find Allis-Chalmers tractors sold...serviced...guaranteed by *Highway!*

Why do leading mines prefer quality equipment furnished by Highway?

Because Highway's mine equipment engineers share operators' equipment problems . . . study equipment needs . . . then recommend machinery which will do the job better—at lower cost.

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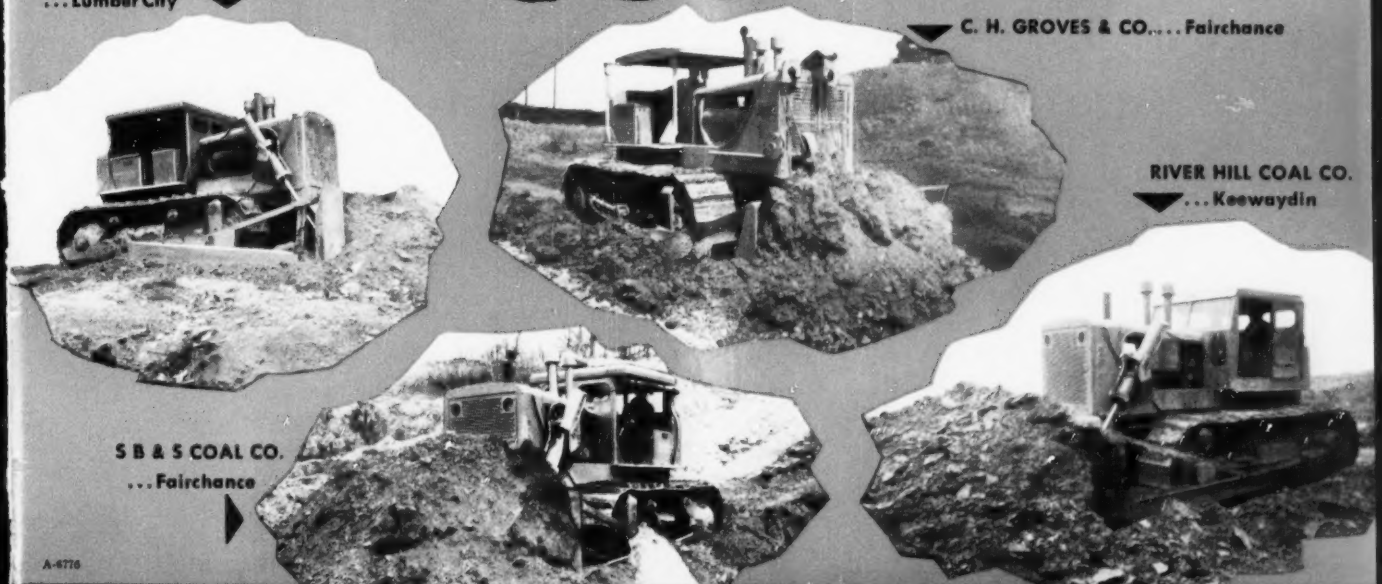

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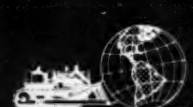

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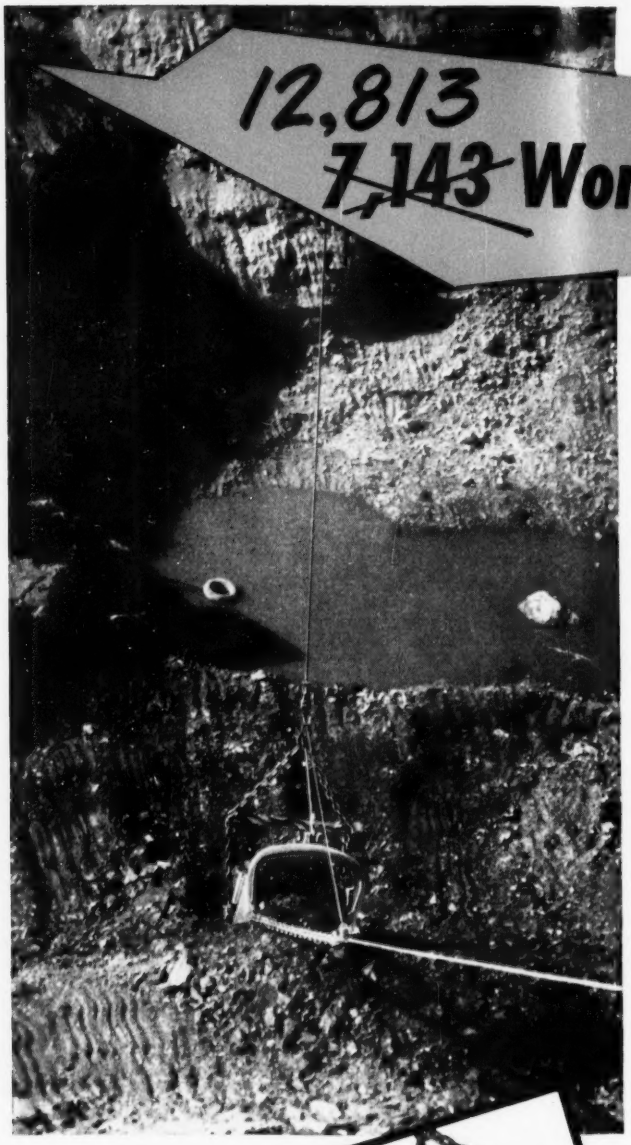

ESCO 9 yard stripping dragline owned by J. Robert Bazley, working at Logan stripping near Mt. Carmel, Penn.

12,813 ~~7,143~~ Working Hours Old

and still on the job

The *ESCO* dragline bucket shown at the left went into service in April 1945. As of September 30, 1948, it had— 1, 1951

Operated 7,143 hours. 12,813

Moved 1,411,915 yards of original material. 2,773,630

These corrected figures plus the maintenance cost per yard—.00785—bring the life history of this bucket up to date.

The bucket is still in service, stripping overburden in the anthracite region of Pennsylvania where digging conditions are notoriously tough.

ESCO dragline buckets will give you similarly outstanding performance. For detailed information on engineering and construction which make this possible, get a copy of *ESCO* catalog 188, "*ESCO* Dragline Buckets". Request it from your nearest *ESCO* representative.

ESCO stripping dragline bucket, with manganese steel parts shown in red.

ESCO

DRAGLINE BUCKETS, DIPPERS AND HOE DIPPERS

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